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Thesis on:

**Determinants of Credit Risk of Basic Dairy Co-operative ; a case
of Bahir-Dar City**

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Statement of Declaration

I, Hailemariam Messele Yihun, have carried out independently a research work on —Credit default risk and its determinants of Basic Dairy cooperatives of Bahir dar City in partial fulfillment of the requirement of the M.Sc. program in Accounting and Finance with the guidance and support of the research advisors.

This study is my original work and that has not been presented for any degree or diploma program in this or any other university/institutions, and that all source of materials used for the thesis have been duly acknowledged.

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Dedication

This work is dedicated to my Mother Yeshihareg Aynalem for her love, patience, wisdom and spirituality! I will always remain grateful for your kindness. May the Lord place your soul in Heaven!

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A. Hailemariam Messele.

Abstract

Now a day Regions are in a scenario, which accounts of dairying representing a promising avenue for improving the welfare of resource-poor communities and for concentrating development efforts on smallholder dairy production. Such opportunities are further being strengthened via the current market oriented policy pathway defined recently for the Regional agriculture as a whole. The main purpose of this study is to identify determinants of credit risk of basic dairy cooperatives in Bahir dar city. A cross sectional study was conducted among dairy co-operatives members of Bahir Dar city in the Amhara regional state (namely Addis Alem and Bahir dar basic dairy co-operatives). A sample of 78 members was taken from both co-operatives. The primary data collection through structured questionnaire was used. Since the number of dairy cooperatives in the city and their members are few in number, which is easy to manage, the whole population was taken that the researcher used census study. The type of measure is standardized questioners and survey of documents. Chi square test was used to test the relationship between each independent variables and repayment status. Logistic regression was used to determine the the major factors that affect repayment status.

There were 78 respondents in the study out of which 37 (46.4%) are defaulter and the rest 32(53.6%) are non-defaulter at the time of data collection. The probability of being default for a beneficiary whose educational status were illiterate is about 4 fold times to those whose educational status were 12 complete and above. The probability of being default for a beneficiary who said repayment period set by basic dairy cooperative is not suitable is about 3 fold to those who said is suitable. The probability of being default for a beneficiary who are not supervised regarding credit/loan utilization is about 5 fold times higher than those who are not supervised. The major predictor factor that affects repayment status are level of education, the repayment period suitable, supervised regarding credit/loan utilization, adequacy of supervision made by staff, training before receiving the credit and the training helped them. So, the lending cooperatives are particularly recommended to devote the required resources in enhancing the volume of repayment status by exerting great support on beneficiaries for increased access to education, implementing consistent supervision and consultation and enabling accessed to different subject matter trainings. Thus, the practice of quality lending and collection of repayment becomes the tradition of the target beneficiaries of the study and then to the general community of the city.

Key Words: credit default, credit/loan utilization, creditworthy, repayment status, impact.

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List of Acronyms/Abbreviations:

AADPA -	Addis Ababa Dairy Producers Association
AI -	International Alliance
ANRS -	Amhara National Regional State
BOARD –	Bureau of Agricultural and Research Development
BOFED –	Bureau of Finance and Economic Development
CSA –	Central Statistics Agency
DDE –	Dairy Development Enterprise
FAO –	Food and Agricultural Organization
FAO/SFE –	Food and Agricultural Organization Sub Regional Office for Eastern Africa
FCA –	Federal Cooperatives Agency
FDRE -	Federal Democratic Republic of Ethiopia
FINNIDA -	Finnish International Development Association
Gov’t -	Government
ICA -	International Cooperative Alliance
ILCA -	International Livestock Centre for Africa,
MOFED –	Ministry Of Finance and Economic Development
OECD -	Organization for Economic Cooperation and Development
RA -	Rapid Appraisal
SDDP -	Smallholder Dairy Development Pilot Project
SNV –	The Netherlands Development Organization
TLU -	Tropical Livestock Units

Chapter 1 Introduction

1.1. Background of the study

Credit is the provision of resources such as granting a loan by one party to another party which arranges to repay at a later date (Steven 2003). Default means to fail to pay the debt or other financial obligation.

There are, however, positive signs of a take-off of the formal dairy sub-sector as the current government has chosen a market-oriented policy with liberalized markets and encouraging private sector investments in the dairy industry, the dairy sub-sector faces challenges to secure and sustain these initial gains for future generations, and development assistance can play a significant role in overcoming these challenges. This potential take-off comes at a time when the demand for animal products is increasing due to growing population and urbanization, rising disposal incomes, and changes in demographic structure of the population(Land O'Lakes, Inc., 2010).

1.1.1. Overview of the Microfinance Institution

Microfinance has evolved as an approach to economic development intended to benefit low income women and men. It expanded enormously in 1990s (Ledgerwood 1999). Policy makers, donors, practitioners and academics underline the role of microfinance as a powerful tool for poverty alleviation and economic development.

Ethiopia is one of the lowest income countries in the world. Its economy, which is mainly dependent on agriculture, has been hit by several internal and external shocks. Devastating wars, frequent draughts, high population growth, distorted investment environment, volatile primary product prices, etc have been some of the shocks the economy has been experiencing. These factors resulted in the decline of the economy as a whole, while the living conditions of the population have been continuously deteriorating (Dejene 1993).

After 1991, however, the government of Ethiopia i.e. Federal Democratic Republic of Ethiopia (FDRE) has taken financial alterations to reverse the economic decline and worsening poverty situation in the country. According to the report by Ministry of Economic Development and Cooperation, Ethiopia (1999) the Ethiopian economy has registered a recovery in economic performance since the introduction of economic reform program after a period of stagnation and decline for nearly two decades. Further, Microcredit to farmers and artisans needs to be routed through some voluntary agencies preferably of farmers and/or artisans (Ghosal, 2009).

According to Daley-Harris (2006), Microfinance Institutions (MFIs) are increasingly a central source of credit for the poor in many countries. The typical repayment schedule offered by a MFI consists of weekly repayment starting 1-2 weeks after credit/loan disbursement. Weekly collection of repayment installments by bank personnel is one of the key features of microfinance that is believed to reduce default risk in the absence of collateral and make lending to the poor viable.

Despite the sharp disjunction in the predictions offered by the rational economics model and the behavioral model, evidence on whether repayment frequency influences default rates in microfinance remains limited. Armendariz and Morduch (2005) report anecdotal evidence from Bangladeshi microfinance providers suggesting that microfinance contracts with less frequent repayment saw higher client default.

1.1.2. Need for Provision of credit and other resources to urban agriculture

The purpose of small loans is to acquire additional capital or even as an advance on production to meet cash-flow needs of the household. In these cases, the farmer often falls on the mercy of the traders, who take high risks themselves, but usually can pass them on through higher prices (FAO, 1998).

The growing micro-credit industry is tailor-made for urban farmers. Its primary goal is to support income-generating activities of poor women. Micro-credit organizations have proliferated in recent years around the globe and are available in rural and urban areas. Local governments can facilitate the availability of micro-credit for urban farmers by eliminating official barriers to farming, creating access to formal market outlets for selling, and helping to form partnerships between farmers and small agro processors that can guarantee revenue streams for the farmers (FAO, 1998).

In addition, the poor can't fulfill banking requirement to get credits. The requirements for collateral and intrinsic banking procedures are in most cases very difficult for the poor to deal with. The volume of loan demanded by small farmers is not appealing to banks. Such loans are difficult to manage and their processing not financially feasible (Ibid).

Dejene (2003) argues on the economic importance of the informal institutions in Ethiopia that the poor are often marginalized in the formal credit markets. This can be explained partly in terms of: 1) a lack of collateral, which makes lending to the poor a risky venture; 2) transaction cost of lending to and borrowing by the poor is often high; and 3) utility loss from repayment is higher for the poor as compared to the rich.

As affirmed above, given those situations and thoughts allied to credit default the researcher has interested to make inquiry on credit default risk and its determinants of basic dairy cooperatives in Bahir dar city in order to forward recommendations up on the deviations after the overall conclusion has been inwards.

1.1.3. Credit policy in Ethiopia

The formal and informal financial sectors are the principal sources of finance for any investment or business that can be undertaken at micro, small-scale and large-scale levels in an economy. The major financial institutions in the

formal financial sector in Ethiopia are various public and private Banks. As Dejene (1993) noted, because of the elaborate paper work, bureaucratic lending procedures and stringent collateral requirements, the institutions do not deliver credit as and when needed. Moreover, they operate at high transaction costs.

During the imperial regime, the banking sector was partly owned by foreigners and the lending policy was mainly oriented to financing foreign enterprises and wealthy clients while domestic small borrowers were rationed out and forced to seek credit from informal finance (Mauri 1997). In addition, branch concentration was in few urban centers, with Addis Ababa alone, for instance, accounting for 64 per cent of branches in the country. Collateral requirements were up to 200%. The agricultural sector was almost neglected because financial institutions considered agricultural activity as risky investment (Itana 1994).

During the Derg regime (1974-1991) all financial institutions were nationalized and credit was mainly channeled to public enterprises, state farms and cooperatives. The provision of credit was not based on economic rationality but entirely on government preference. The private sector was marginalized. The discrimination against the private sector was not only in credit access but also in interest rate, which was for instance 9% for private sectors as opposed to 6% for public industrial enterprises since July 1986 (Itana 1994).

Abraham (2002) noted that with the downfall of the Derg, the private sector got equal access to credit with other sectors, banks were also given autonomy to decide by themselves based on purely commercial criteria and establishment of private banks and insurance companies was permitted. As a result credit/loan disbursed to the private sector, which was 49% in 1992/93 rose considerably and reached 87.7% in 2000/01. In fact there is still unsatisfied demand for credit from this sector of the economy due to inability to meet banks' lending requirements.

As Solomon (1996) noted the banks serve big businessmen and disregard poor households as bankable. Many small, creditworthy businessmen, with their viable investment ventures, are denied access to institutional credit because they couldn't afford the required collateral. He also indicated that, —Overall; the prevailing operation of the formal financial institution in many low income countries such as Ethiopia is inefficient in providing sustainable credit facilities to the poor.

Regarding delivery of financial services access to institutional credit was very limited in Ethiopia. Because of this limited access, the majority of the poor get financial services through informal sources like moneylenders, Iqqub⁴, Iddir (mutual aid society, burial society), merchants, friends and relatives, etc. The formal financial sources have not been interested in delivering credit to the poor. Even if the banks in the country, which are part of the formal financial sources decide to give credit to the poor (as in the case some banks have been forced to do so during the Derg regime) their outreach was also very limited for long. Thus, delivering financial services to the poor requires an innovative targeting design and a mechanism of credit delivery that helps identify and target only the poor who can take the initiative and sustain productive use of loans.

Traditional credit and saving institution with rotating fund. System of saving where by people from groups and pay periodically a fixed amount of money, which will be collected in a common pool, so that, in rotation, each member of the group can receive one large sum i.e. the sum of money paid by all in one period.

In recent years, the informal and semi-formal lending institutions such as Iqqub, Iddir, money lenders etc. are becoming the dominant and important sources of finance for poor households in Ethiopia. According to Dejene (1993) these two institutions account for 81% of the agricultural credit.

The establishments of sustainable and profitable microfinance institutions that serve large number of poor households have been a prime component of the new development strategy of Ethiopia (Wolday 2000). NGOs have also been directly funding microcredit activities as part and parcel of poverty alleviation program since the 1970s (MFDR 2001).

1.1.4. The Role of Cooperatives.

Cooperatives play vital roles in economic and social development. Increased involvement of the government is based on the premise that the cooperative movement can mobilize human and financial resources to enhance economic and social development through production, marketing, processing and distribution of commodities. It is in this regard that the Government attempts to Cooperatives: a path to economic and social empowerment in Ethiopia use cooperatives as an instrument to achieve its poverty reduction strategy. However, the functionality of cooperatives is constrained by shortage of capital and limited access to credit. An effective and sustainable cooperative movement requires overcoming major credit constraints and strengthening capacities of administrators and management staff associated with cooperatives. The participation of cooperatives in the economic activities is affected by their management capacity, experience and access to credit. The other form of social protection that cooperatives offer to their members includes lending money when their members face unexpected expenses. These financial services protect cooperative members from selling their productive assets (*Bezabih, 2009*). In this study, investigating determinants of Credit Risk of Basic Dairy Cooperative of Bahir-Dar City is undertaken.

1.2. Statement of the Problem

Dairy production, among the sector of livestock production systems, is a critical issue in Ethiopia where livestock and its products are important sources of food and income, and current development in the country is

characterized by rapid population growth in the country in general and regional cities in particular including Bahir-dar that the demand for dairy products is increasing ever; but dairying has not been fully exploited and promoted in the country (Sintayehu Yigrem,et.al.(2008).

From as early as the 1960s, there have been a large number of studies aimed at assessing the application of statistical models to corporation data with a view to predicting business failure and credit default (Beaver, 1967, 1968: and Altman, 1968). This issue has become increasingly important in recent years, in the mist of the current economic crisis popularly referred to as the credit crunch. Continuous default by borrowers affects the economic growth of the country and is therefore a major concern for the government and the financial institutions.

To ensure that credit worthy customers do not carry the burden of default of other persons the government through legislative instruments such as the borrowers and lenders Act 2008 has provided a legal framework related to credit to prohibit certain credit practices and promote a consistent enforcement framework related to credit(Setargie, 2011).

This phenomenon is very worrying as it impedes the realization of the Millennium Development Goals especially with regard to the Growth and Poverty Reduction Service II which is the alleviation of poverty among the rural and productive poor through Microfinance.

However, limited researches have been undertaken to explore to the challenges of the successful implementation of microfinance in developing countries like Ghana especially microfinance credit default, but almost no research has been done on the determinants of credit risk of dairy cooperatives in Ethiopia.

The extent of default rate particularly in the selected dairy cooperatives of Bahirdar city for consecutive 5 years(for 2010, 2011, 2012, 2013 and 2014) researcher summarized data on average shows that 28.58 per cent in **Adis**

Alem Dairy Cooperative and 78.76 per cent in **Bahir-Dar Dairy cooperative** (*report of sample dairy cooperatives, 2014*). While working as a performance Audit Team leader and evaluating ANRS Cooperatives Agency's Economical use of resources, Efficiency and Effectiveness of the 6 budget years performance (2009 – 2014), the researcher has observed that non repayment of credit/loan of the basic dairy cooperative members and various risk management drawbacks of the leaders and officers that hinder the operations of basic dairy of cooperatives. Given this background, it is important that researchers begin looking at this area of study.

In the results of the above researchers and researcher collected reports, gaps found on the determinants of credit risk of basic dairy in urban areas/cities/, particularly in Bahir-dar city. That is why I have chosen the topic Determinants of Credit Risk of basic Dairy Co-operatives market (A case study of Bahir-Dar city). Therefore, based on the above reasons, the research is conducted at 2 first level dairy cooperatives (*Addis Alem and Bahirdar basic cooperatives*) which were organized in 1996 according to "Cooperative Societies Proclamation No. 402/96" and reorganized again in 1998 according to "Cooperative Societies Proclamation No. 134/1998 with 27 and 32 members respectively. There is no an organized attempt to investigate factors responsible for high credit risk problems of cooperatives identified. Therefore, the study attempted to assess the gap in credit default risk with reference to the aforementioned basic dairy cooperatives in Bahir dar city in order to forward accounting for dairy cooperatives as such problems raised.

1.3. Research Questions

1. How the causes of default problem influence borrowers credit financed by dairy cooperatives;
2. What are the determinants of credit risk/default and the outcome of credit repayment in basic dairy cooperatives?

3. To what extent credit risk factors affect the dairy cooperatives, families, and the community ?

1.4. Objective of the Study

1.4.1 General Objective

The principal aim of this study is to identify factors that determines of credit risk of dairy cooperatives market in Bahir dar city.

1.4.2. Specific Objectives

To accomplish the principal objective, the study enabled the researcher to develop the following specific or sub-objectives.

1. To identify the causes which are influencing the credit default problem of borrowers financed by dairy cooperatives;
2. To investigate the determinants of credit default risk and the outcome of credit repayment on dairy cooperatives, families, and the community;
3. To assess the impact of default on cooperatives, families, and the community.

1.5. Research Hypotheses

In order to achieve the problem statement and objective above, the study develops the following research hypotheses:

H1: The linkage and relationship of credit default and the factors affecting them are hypothesized based on matter-of-fact experiences. For that reason, borrowers' socio-economic distinctiveness and other economic state of affairs are hypothesized to explain credit repayment performance of borrowers. It presents the demographic and socio-economic characteristics of the sample population, focusing on age, sex, and educational background. The aim is to reveal the type of population that

determines cause of credit default and impact among the members of the dairy co-operatives.

H2: Principally the capacity of borrowers to successfully use the credit/loan proceeds on income engendering trick sand also devotion on the part of the lending institution in following up the credit/loan utilization of its borrowers. In this regard, are hypothesized to be the most important determinants that can improve credit repayment performance. It presents and discuss about credit/loan utilization, credit loan repayment, supervision, consultative visits and training, income and wealth, expenditure as credit risk and market situation and credit benefit of the members.

H3: Finally beneficiary's livelihood is expected to improve because of involvement in the credit scheme provided that the credit/loan is utilized effectively on activities that are income generating. The relationship between each independent variable and repayment status is presented.

1.6. Significance of the Study

However, limited researches have been undertaken to explore to the challenges of the successful implementation of microfinance in developing countries like Ghana especially microfinance credit default, but almost no research has been done on the determinants of credit risk of dairy cooperatives in Ethiopia.

This requires an efficient credit repayment performance as well as an impact to be observed on the target beneficiaries. So far, this study believed to be relevant for: one, it will gravitate the concerned bodies to look for more effective solutions for the problems. Second, the concrete suggestions of the study will use by the concerned body at least to minimize the credit risk that exist in basic dairy cooperative. Finally, the study will have valuable importance for further study and add new idea to the existing knowledge of dairy cooperatives and credit risk.

1.7. Scope of the Study

The study focused on the causes that influence credit default problem of borrow members, investigating determinant of credit default risk and outcomes of repayment, and assessing the effect of default on the selected basic Dairy cooperatives (*Addis Alem and Bahir-dar basic dairy cooperatives*), family of members and the community. The period I used to study is from 2010 – 2014.

1.8. Limitations of the study

It is not denial that any research papers from its initiation to completion perhaps encounter a limitation. Besides, there are some of the limitations that face in the preparation of this research thesis are the time allotted is really too short and limited data sources of the microfinance industry of Ethiopia, inconvenience in selection member lenders as a variable of the study and lack of adequate reports here in the City cooperatives office, ANRS cooperatives Agency for general understanding.

1.9. Organization of the study

The study will discuss five chapters. Chapter one deals with introduction of the study which covers background of the study, statement of the problem, research question, objective, hypothesis, significance, and scope of the study. *Chapter two* deals with the review of the related literature including theoretical framework of the study, extensive review of empirical evidence on the subject matter of dairy cooperatives together with the circumstance of Ethiopia, especially Bahir dar city, and knowledge gap and conclusion. *Chapter three* deals with the research methodology which covers the research design, type and source of data, population, sample size, and method of data analysis. Chapter *four* presents results and discussion with the help of both descriptive statistics and econometrics analysis. *Finally, chapter five* presents conclusions and future research work.

Chapter 2 Review of Related Literature

2.1. Introduction

Cooperatives play vital roles in economic and social development. Increased involvement of the Government is based on the premise that the cooperative movement can mobilize human and financial resources to enhance economic and social development through production, marketing, processing and distribution of commodities. It is in this regard that the Government attempts to Cooperatives: a path to economic and social empowerment in Ethiopia use cooperatives as an instrument to achieve its poverty reduction strategy. However, the functionality of cooperatives is constrained by shortage of capital and limited access to credit. An effective and sustainable cooperative movement requires overcoming major credit constraints and strengthening capacities of administrators and management staff associated with cooperatives. The participation of cooperatives in the economic activities is affected by their management capacity, experience and access to credit. The other form of social protection that cooperatives offer to their members includes lending money when their members face unexpected expenses. These financial services protect cooperative members from selling their productive assets. (*Bezabih Emana., 2009*)

Therefore, Credit is the pivot on which the development of any sector rests. Meanwhile, credit risk is the most important of the risk categories. It is the potential loss resulting from the poor quality of the FI's assets particularly its credit/loan portfolio. The most obvious manifestations of risk in credit projects are poor portfolio quality that leads to bad debt losses that erode the capital of the lending institution.

Set the luminosity of the above, the purpose of this chapter is to review the literature in the area of credit default risk in relevant financial institutions & the dairy cooperatives. The review highlights definition of the credit and

default, its main features and the problems it encounters. Furthermore, it tries to identify the gap in the literature.

2.1.1. Definitions and Theoretical Perspectives of Credit & Credit Risk.

Giving money to people with the expectation that they will pay back the money with interest is a business, which is as old as man himself. Traditionally people have saved with and, taken small loans from individuals and groups within the context of self-help to start businesses or farming ventures (Offei 1965, cited in Aryeetey 1994, p.16).

The Concise McGraw-Hill Dictionary of Modern Economics defines credit as an exchange of goods and services for a promise of the future payment. It also indicates that credit is necessary in a dynamic economy because of the time that elapses between the production of a good and its ultimate sale and consumption and credit bridges this gap. The risk in extending credit is the probability that future payment by the borrower will not be made (Greenwal & Associates, 1983).

A number of researchers (Adams & Graham, 1981; Gongalez2Vega, 1977; FAO, 1996) reported the requirement of credit facilities to small holders of less developed countries (LDCs) for production and consumption smoothing. Governments of LDC sand aid agencies have spent a large amount of money to this sector. The motivation has been the belief that loans are an essential part of various input packages that were prescribed as part of agricultural investment projects designed to introduce modern technologies and thus stimulate change and growth in agriculture.

Credit risk is an investor's risk of loss arising from a borrower who does not make payments as promised. Such an event is called a default. Another term for credit risk is default risk. Investor losses include lost principal and interest, decreased cash flow, and increased collection costs. Credit risk can be

mitigated using risk based pricing, covenants, credit insurance, tightening and diversification (Ross et al, 2008).

2.1.2. Credit Markets and rationing

The market for credit differs from standard markets for goods and services in two important ways. As we know from the classical competitive theory, the first difference lies in the fact that in standard markets a number of agents take part in buying and selling a homogenous commodity. The second difference lies in the fact that the handover of the good or service and the payment for it occur simultaneously in such markets (Stiglitz 1990).

In contrast, credit received today by an individual is exchanged for a promise of repayment in the future. Since promises differ from person to person, and are frequently broken, there may be no objective way of determining that a promise will be kept (Jaffe and Stiglitz 1990).

Jaffe and Stiglitz (1990) discuss certain features of credit/loan contracts and loan markets that make standard demand and supply model inapplicable, giving rise to credit rationing. These features include uncertainly the nature of loan contracts, and borrowers risk behavior. For instance, uncertainty concerning the borrower's ability, or willingness of repaying loans when they are due, results in divergences between promised and actual repayments, creating risk of default. Since the response of lenders to uncertainty is determined in part by the extent of their risk aversion, they may use credit rationing to reduce default risk.

Credit/loan contracts specify the amount borrowed, the interest and non-price terms like collaterals, which constrain the borrower in order to reduce default. As the terms of contract change the behavior of the borrower is likely to change. For instance, raising the interest rate decreases the return on projects that succeed. This could be due to the fact that higher interest rates induce

borrowers to undertake projects with lower probability of success but higher returns when successful (Stiglitz 1990).

Credit rationing is broadly defined as a situation where the demand for credits/loans exceeds the supply of loans at the going interest rate. Different types of credit rationing have been examined in the literature. Pehlivan (1996) as cited in Abraham (2002) saw it from the angle of loan size where borrowers receive a lesser amount of loan than they requested at a given loan rate.

Jaffe and Stiglitz (1990) broadened the classification and identified types credit rationing. These are: 1) A situation where a borrower may receive a credit of smaller amount than desired; 2) A situation where some individuals cannot borrow at the interest rate they consider appropriate based on what they perceive to be their probability of default; 3) A situation where a borrower may be denied credit, when a lender thinks of not being able to obtain its required return at any interest rate. The concept that will be addressed in this study is the first type of rationing.

2.1.3. Impact Assessment and Sustainability

Hulme (2000) noted that impact assessment studies have become increasingly popular with donor agencies, and in consequence, have become an increasingly significant activity for recipient agencies.

There are two major schools of thought that are popular in microfinance impact assessment. Hulme (2000) terms them as intermediary‘ and intended beneficiary‘ schools, based on their focus of impact. The intermediary school focuses purely on changes in the MFI and its operations. Two key variables are focused on in this approach: institutional outreach and institutional sustainability (Yaron et al. 1997).

Conventionally, economic indicators have been widely utilized in assessing the impact of microfinance where assessors are particularly interested in

measuring changes in income, expenditure, consumption and assets. Sebstad et al. (1995) distinguish between domain of change' (e.g. household income) and markers of change' (e.g. amount of income, number of income sources and seasonality of income) within each domain.

On the other hand, outreach is assessed on the basis of the type of clientele served and the variety of financial services offered; including the value and number of loans extended, the value and number of saving accounts, the number of branches and sub-branches, percentage of total population served, the real annual growth of the rural financial institutions' assets over recent years and the participation of women clients (Khandker 1995).

Sustainability relates to the ability of a program to continuously maintain its activities and services in order to meet its objectives. Snodgrass (1997) argues that a successful micro-enterprise support program is defined in terms of outreach, financial sustainability or socioeconomic impact.

2.1.4. Strategies to Minimize Defaults

Because of the vulnerability of the microcredit sub-sector, lending institutions continue to adopt different techniques to improve repayment frequency and grant more credit access to borrowers who pay their credits on time (Christoph 2002).

The Kenya Women Finance Trust believes that small credits are expensive to administer and that the institution can survive only by charging competitive interest rates, lending to women, and keeping defaults to a bare minimum. Women are targeted as clients by this trust because they have been found to have a high propensity to repay (Ibid).

According to Mann (1993), some lenders prefer known clients to avoid default. People on a loan committee will give preference to an applicant with whom they have dealt previously. Hence; lending institutions will give money based on

previous banking experience with the client. The same study also showed that institutions lend to profitable businesses that have cash flow available to pay back the credit.

According to WHITE PAPER, Credit Expo Ltd. (2012), Today's highly dynamic and competitive world demands a far more sophisticated and intuitive approach to identifying both risk and opportunity. Unreliable, traditional methods of estimation need to be replaced with a new empirical approach that is self-learning, intuitive and able to respond to dynamic, ever-changing conditions. Confidence is vital to the economic recovery. If financial lenders are confident that they have the best information possible to distinguish opportunity from risk, they will grow their business and drive revenue. This level of insight and accuracy requires a credit risk model that leverages analytics. By taking numerous factors into consideration—information from a credit application, customer behavior, local economic data, corporate profit and loss data, etc.—lenders are given the empirically-derived information they need to make objective and informed decisions. With greater control over the risk management process, lenders will regain the confidence they need to build a stronger business. Credit Expo Ltd, (2012)

2.1.5. Three C's of Microcredit

Most literatures also describe three —Cs that should be observed to reduce default when providing microcredit: character, capacity, and capital (Sally 2011).

Character refers to the way a person has handled past debt obligations. Paying heed to character includes determining the borrower's credit history and personal background, honesty, and reliability to pay credit debts (Ibid).

Considering a borrower's **capacity** involves determining how much debt he or she can handle comfortably by analyzing income streams and identifying any legal obligations that could interfere with repayment (Ibid).

Capital refers to a borrower's current available assets, such as real estate, savings, or investments that could be used to repay debt if income is unavailable (Ibid).

2.1.6. Types of Risks faced by Institutions

There are number of risks that a MFI has to face. These risks could be of delinquencies, frauds, staff turnover, interest rate changes, liquidity, regulatory etc. but all these risks can broadly be classified into four major categories. These are credit risk, operational risk, market risk and strategic risk (Rangan 2010).

Of the above four categories Credit risk and Market risk are directly of financial nature and hence are called Financial risks while Operational risk and Strategic risk are of non-financial character and result mainly from human errors, system failures, frauds, natural disasters or through regulatory environment, weak board, poor strategy (Ibid).

Credit risk: is directly related to the portfolio of the organization and is one of the most significant risks from an MFI perspective. Whenever an MFI lends to a client there is an inherent risk of money not coming back, i.e. the client turning into a defaulter, this risk is called the Credit risk. Credit risk is simply the possibility of the adverse condition in which the clients does not pay back the loan amount (Rangan 2010).

MFIs try to have an objectives view of their credit risk and want to measure the extent of credit risk, which is the risk on their portfolio. There are various indicators, which help in measuring the credit risk profile of an MFI. Of these indicators portfolio at risk (PAR is considered to be the most effective and is now very common indicator across MFIs. Apart from PAR, Repayment rate and Arrear rate are other ratios, which also provide information about the portfolio quality of an MFI.

Portfolio at risk or PAR tries to measure the amount of loan outstanding that the MFI stands to lose in case an overdue client does not pay a single installment from the day of calculation of PAR. PAR is the proportion of loan with overdue clients to the total loan outstanding of the organization. $PAR\% = (\text{Loan outstanding on overdue loans} / \text{Total loan outstanding of the MFI}) \times 100$. PAR is further refined by MFIs to make it meaningful by including ageing in it. So MFIs often calculate PAR 30, PAR 60, and PAR 90 etc. PAR30 means outstanding of all loans, which have overdue greater than 30 days as a proportion of total outstanding of the MFI. Besides, Arrear rate equals total overdue over total loan outstanding times hundred (Ibid).

Causes of High Credit Risk and managing them are (1) poor MIS, (2) Poor screening of borrowers, (3) Weak appraisal of loans, (4) Unclear communication about product and methodology, (5) No immediate follow-up, (6) Mixing other social activities with, (7) Poor product, (8) Natural disasters, (9) Corruption at field staff level such as taking bribe for loans or frauds can result in delinquencies, (10) Demotivated employees.

2.2. Empirical Evidence

2.2.1. Credit Default and its Effect

The most dangerous problem a microcredit program faces is repayment default. The Association for Social Advancement (ASA, a Bangladesh-based nongovernmental organization focusing on microfinance) has pointed out that if the money invested by the lending organizations can not be recovered, the whole program may collapse.

Any formal lending program directed toward the poor faces a number of challenges. The first problem is exact targeting to ensure no Type I or Type II errors, as defined by Cornia and Stewart (1992). These are errors of omission of poor people and of inclusion of non-poor people. The second problem is screening to distinguish the good (creditworthy) borrowers from the bad (not-

so-creditworthy) borrowers. Third, the funding agencies may not be able to monitor and ensure productive usage of the credits. Lending institutions must make good loans because default without sanctions will damage the people's commitment and the whole program may collapse. Moreover, there are some empirical evidence listed here under on the matter of credit default risk and its determinants in different countries.

Diagne and Zeller (2001) analyzed the determinants of access to credit and its impact on farm and non-farm income and on household food security in Malawi. Their report showed that the contribution of rural microfinance institutions to small income holder can be limited or negative if the design of the institutions and their services do not take into account the constraints and demands of their clients.

A vast body of literature supports the view that borrower characteristics are highly influential determinants of repayment. There is also strong evidence that institutional characteristics are equally important and that both factors need to be taken into account if credit default is to be minimized (Derban, Binner, and Mullineux 2005).

Basu (1997) scrutinized why institutions remain unable to extend credit to rural poor people. His analysis indicated that, at best, poor peasants can offer as a mortgage an entitlement set comprising only future shares of their harvest—a commodity itself subject to risk. Credit repayment by borrower farmers is influenced by timeliness of input supply, participation in off-farm activities, and yield loss due to natural calamities, among other things (Hundie, Belay, and Demeke 2004). Consequently, lenders cannot advance loans without risking extensive loss of loanable funds. It is also true that public perception of credit programs is an important factor influencing default.

Regarding default in joint loan board programs, an impact study carried out by Kenya Consulting Associates attributed default to poor program management,

which resulted in minimal follow-up on borrowers. The report noted that there are no systematic follow-up procedures.

Furthermore, commercial law in Kenya provides a debtor's limitation period. The law states, —If a creditor does not demand repayment of the loan from his debtor within six years of the loan, he cannot enforce his claim in the court in case the debtor refuses to pay (Hussain 1978).

Elsewhere, lenders of microcredit have been found to have limited, if any, means of mitigating damages in the event of default because poor people lack assets to back up their loans and poor countries lack civil infrastructure (such as adequate court systems) to collect bad debt. Without a safety net for credits in default, microcredit portfolios can fail if borrowers perceive that there are no consequences for defaulting on their credits/loans (Own contribution).

According to Vigano (1993), about the case of development bank of Burkina Faso employed a credit-scoring model. The study found out that being women, married, aged, more business experience, value of assets, timeliness of credit/loan release, small periodical repayments, project diversification and being a pre-existing depositor are positively related to credit repayment performance. On the other hand, loan in kind, smaller loan than required, long waiting period from application to loan release and availability of other source of credit were found to have negative relation with credit repayment performance.

Meanwhile, Kashuliza (1993) used a linear regression model to investigate determinants of credit repayment in smallholder agriculture in the southern highlands of Tanzania. The study showed that level of education, attitude towards repayment; farm income and off-farm income positively affect credit repayment with farm income being significant, while age, household expenditure and household size have negative influence on credit repayment performance with household expenditure being significant.

Malawi

Chirwa (1997) used a probit model to estimate the probability of agricultural credit repayment in Malawi. The result indicated that crop sales, income transfers, degree of diversification and quality of information are positively related while size of club is negatively related to the probability of repayment. Other factors like amount of loan, sex, household size and club experience were found to be insignificant.

2.2.2. Real Incidences of Defaults

According to Kassim, Salina and Rahman (2008), it can be concluded that the MFIs are only concerned about extending financing without much effort being done to provide any form of post disbursement supervision. Post-disbursement supervision is highly relevant in ensuring the success of microfinance project due to the fact that around 80 per cent of the recipients of microfinance are illiterate women. Furthermore, around 82 per cent of these women had no business experience before joining the microfinance program, while the rest 18 per cent had some basic business experiences. The illiteracy of the recipients is rather serious to the extent that some do not even know how to count the amount of money that they received from the MFIs.

Commonly, the MFIs provide loan without any technical assistance except for some briefing of around five to ten minutes to the recipients. It should be emphasized that the technical assistance is just as important and should complement the financial assistance in ensuring the success of the business project (Own contribution).

Several incidences of default happened due to: case 1: lack of post-disbursement supervision leading to moral hazard, case 2: lack of training on basic business skills and knowledge, case 3: lack of health awareness resulting in the need to spend on medical expenses, case 4: burdensome immediate

repayment schedule, case 5: lack of motivation to improve standard of living, case 6: multiple borrowings from different MFIs.

2.2.3. Causes of Defaults

Based on the real incidences of default mentioned above, in general, the causes of default can be divided into two categories: (I) weaknesses from the lender side such as Absence of post-disbursement monitoring system, lack of technical assistance given to the microfinance recipients, inexperienced field workers, burdensome immediate weekly payment system, lack of common accessible database of the microfinance recipients. (II) moral hazard problem on the borrower side such as hiding business, family member's illness, lack of, over-stretched financial commitments due to multiple borrowings from MFIs: amid the increased competition among the MFIs and the absence of a common database to keep track of the microfinance recipients, many recipients borrow from more than one MFIs, resulting in the difficulty to meet the multiple payment installments.

2.2.4. Conclusion and knowledge gap

The review of the literature discloses the existence of gaps of knowledge in respect of dairy cooperatives and credit default. As per the knowledge of the researcher, there are studies in developing countries Microlike Kenya, Malawi, Tanzania, Tanzania, etc in government Microcredit programs. For instance, in Kenya studies like causes of default in government microcredit programs. Lending programs directed toward the poor face unique problems of targeting, distinguishing between creditworthy and not-so-creditworthy borrowers, and monitoring the productive use of loans. Default on repayment poses a major challenge to the survival of dairy cooperatives programs, especially in relation to the achievement of lending cooperatives broad objectives. Borrowers in poverty have other pressing needs that may interfere with the productive use of the credit extended to them. Consequently, character, capacity, and capital

play a role in credit repayment. In addition, diversion of funds to unprofitable uses, lack of discipline in the use of working capital, poor management skill and poor business performance are also the causes of default. However, most of the studies that has been done are concerned on credit availability, access of credit, adoption of technology, loan performance, etc of the various kinds of cooperatives. Even though the dairy cooperatives are lending money their members for different purposes and managing the credit they had gave, particular studies credit risk & their determinants of basic dairy cooperatives never existed. But as a performance auditor in the Amhara Region General auditor working to evaluate ANRS Cooperatives agency 5 years performance audit, I saw a number of problems on basic dairy cooperatives like poor management of credit lend to members & ineffectiveness, inefficiency with uneconomical use of credit largely exist. These gaps lead to the researcher to the research idea and question of this study. —What are the determinants of credit default risk in the basic dairy cooperatives of Bahir-dar city? In identifying these causes of credit default and lending program helps the selected basic dairy cooperatives and their members to make effective and efficient in their operations. Besides, as per the knowledge of the researcher, this study will help the selected and other related basic dairy cooperatives in Ethiopia.

Finally, while the study is on credit default risk and its determinants of basic dairy cooperatives in Bahir-dar city, the issue perhaps works for other allied concern. Besides, the subsequent chapter presents research design of the study.

Chapter Three - Research Methodology

3.1 Research Design

The foregoing chapter has pointed out that the literature on credit default risk and its determinants. More than ever empirical evidence from developing countries' in Africa continent perspective, in Ethiopia in meticulous, it has been shown that there is no census study in the determinants and analysis of credit default risk.

The purpose of this chapter is to describe the choice of appropriate research method for the study. Research design is specific research methodology philosophies and techniques used to achieve the objective of the study. It include alternative research methodology and technique such as qualitative, quantitative and mixed methodologies, sources of data, sampling plan and method of analysis.

A Mixed (quantitative and Qualitative) research approach was employed in the study to assess the cause and determinants of credit risk and impact among the members of the dairy co-operatives in Bahir dar city. In order to effectively conduct the proposed investigation and test the research framework, explanatory research design has been used. The necessary data for this study was collected from both primary and secondary sources.

3.2 Population, Sampling design and Sample size

Currently there are 2 dairy co-operatives in Bahir Dar town in the Amhara regional state (namely Addis Alem and Bahir dar dairy). There are a total of 78 members in both co-operative, i.e 37(male = 31, female = 6) in Addis Alem and 41 (male = 61, female = 17) in Bahir Dar Co-operative. Since the number of dairy cooperatives in the town and their members are few in number, which is easy to manage, the whole population was taken as a sample. That is, the

researcher used census sampling method. Thus 78 members of the co-operatives participated in his study.

3.3 Data Collection Instruments

In order to assess cause and determinant of credit risk as a result to evaluate their impact among/on the members of the dairy co-operatives and the society, questionnaire and document analysis were used for this study.

3.3.1 Questionnaire

In order to find out cause of credit default, the outcome of repayment and effect of default on cooperatives, families and the community, questionnaire was developed from available literature review. The questionnaire consists of 62 questions which was categorized to 8 sections, section-I concerning about respondent background information, section-II regarding about create /loan utilization, Section-III focused on credit loan repayment, section-IV concerning about supervision, consultative visits and training, section-V concerning about income and wealth, section-VI regarding about employment and production, section-VII focused on expenditure as credit default risk and the last section contain items regarding to market situation and credit benefit. The questionnaire was developed from available literature review (Samuiel Setargie, 2011). (See Appendix A).

3.3.2 Document analysis

While working as a performance Audit Team leader and evaluating ANRS Cooperatives Agency's Economical use of resources, Efficiency and Effectiveness of the 6 budget years performance (2009 – 2014), the researcher has observed that non repayment of credit/loan of the basic dairy cooperative members and various risks indicated like management drawbacks of the leaders and officers which hinder the operations of basic dairy of cooperatives. Given this background, it is important that researchers begin looking at this

area of study. Therefore, the repayment and default rates in the selected cooperatives for the past 5 years was taken from cooperatives office and evaluated the performance of repayment of borrowed members. (See appendix B).

3.4. Data Collection procedure

The questionnaire which has nine pages was distributed to members of the cooperatives personally by the researcher at regular working hours. A total of 78 questionnaires were distributed by personal contact. It took for duration of two week. 37 questionnaires were distributed to Addis Alem diary members and then 35 were correctly filled and maintained the requirement. 41 questionnaires were distributed for Bahir dar diary co-operative members of which 37 questionnaire were correctly filled and maintained the requirement. Even though, all 78 distributed questionnaires were collected. 9 questionnaires were rejected by the researcher. Hence the response rate was 88.6%.

3.4.1. Dependent variables

In this study, the dependent variable is Credit Default (CD = 1 if fully repaid, zero otherwise)

3.4.2 Independent variables

- 1. Age:** Vigano (1993) noted that with increase in age, it is usually expected that borrowers get more stability and experience. So the author expects this variable to have a positive impact on credit repayment performance.
- 2. Gender of Borrower:** There is a belief among many microfinance specialists that female are better payers than male borrowers, taking into consideration their being more entrepreneurial that results from assuming more responsibilities in the internal affairs of a household (Vigano 1993).
- 3. Educational Level of Borrower:** This variable is expected to have a positive impact on repayment performance in general. Considering normal

circumstances, a more educated borrower is expected to use the loan effectively as compared to a less educated one. In this case the study expects a positive sign for the variable.

- 4. Credit/Loan size:** Von Pischke (1991) noted that efficient credit/loan sizes fit borrowers' repayment capacity and stimulate enterprise. If amount of credit released is enough for the purposes intended, it will have a positive impact on the borrower's capacity to repay.
- 5. Timeliness of Credit release:** If credit is disbursed in time, it is unlikely that it will be diverted to non-intended purposes. Johnson and Rogaly (1997) noted that timeliness of credit disbursement is important when credits are used for seasonal activities such as agriculture. In such cases a positive sign is expected.
- 6. Credit diversion:** The impact of this variable depends on what use the diverted credit/loan is put in to it. If it is used for productive purposes than the intended ones then repayment will be enhanced. If on the other hand the credit is diverted to non-productive uses, it will have a negative impact. Therefore, the sign of this variable can't be predetermined.
- 7. Income from activities financed by the credit/loan:** Kashuliza (1993) has concluded that farmers who obtained higher income from farming were more likely to repay their credit. But sometimes borrowers may be tempted not to repay if they see that the success of their business is such that they no more need credit from the lending institution, as Adeyemo (1984) has shown in his study about credit/loan delinquency in a Nigerian multipurpose cooperative union. Hence, this variable may have positive or negative sign.
- 8. Income from other activities or sources:** Some borrowers may have other sources of income like income from employment in government or private

organizations of the borrower or other members of the family, pension, etc. Hence, this variable may assume positive or negative sign.

9. Suitability of Repayment period: It is expected that borrowers who find the repayment period suitable, perform better. Hence, the study expects a positive sign for this variable in this case.

10. Credit supervision period: If there is an incessant follow up and supervision visit to evaluate the credit/loan utilization and repayment, this makes borrowers to observe their obligation and improve the proper utilization of the credit thereby improving repayment performance. Therefore, the study expects a positive relationship.

11. Availability of other sources of credit: If borrowers have other sources of credit, they may use these sources to be able to settle their credit/loan obligation in case they want to continue borrowing from the same source or borrowers may feel careless. Therefore, the study expects a positive sign or negative sign.

3.5. Specification of empirical research model

Logistic regression is a point of category of statistical models called generalized linear model. The dependent variable in logistic regression is usually dichotomous, that is, the dependent variable can take the value 1 with probability of success Q , or the value 0 with probability of failure $1-Q$. This type of variable is called Bernoulli (binary) variables. Although not as common and not discussed in this treatment, applications of logistic regression have also been extended to cases where the dependent variables are of more than two cases, known as multinomial or polychromatic.

As mentioned previously, the independent or predictor variables in logistic regression can take any form. The relationship between the predictor and

response variables is not a linear function in logistic regression; instead, the logistic regression function is used, which is the log it transformation of Q:

The model for the log odds is;

$$\begin{aligned}\text{Logit } (Q(x_i)) &= \log \left[\frac{Q(x_i)}{1 - Q(x_i)} \right] \\ &= \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_i X_i\end{aligned}$$

Where; α is the constant of the equation.

β_i 's are the coefficient of the predictor variables.

3.6. Techniques of Data Analysis

The data was coded, entered and analyzed by Statistical package for social science (SPSS) version 20. Data was cleaned and edited by simple frequencies and cross tabulation before analysis. Descriptive statistics were used to assess normality, outliers and identify missing values. Chi square test was used to test the relationship between each covariate and repayment status. Multivariate logistic regression was done by entering all variables with *P* value less than 0.25 in the bivariate analysis. Finally, logistic regression with forward likelihood selection method was used to identify the determinant factors associated with repayment status. The crude and adjusted odds ratio (OR) and its 95% confidence interval (CI) were estimated.

Chapter 4 - Results and Discussion

This chapter presents the findings, analysis and discussion of the findings that were obtained through structured questionnaires and document analysis. The findings are based on the objectives of the study outlined in chapter one.

The chapter starts by presenting the demographic and socio-economic characteristics of the sample population, focusing on age, sex, and educational background. The aim is to reveal the type of population that determines cause of credit default and impact among the members of the diary co-operatives. Moreover, in this chapter presented and discussed about credit/loan utilization, credit loan repayment, supervision, consultative visits and training, income and wealth, expenditure as credit risk and market situation and credit benefit of the members.

4.1 Demographic Characteristics of Respondents

Table 2: Demographic Characteristics of Respondents

Demographic Characteristics		Number	%
Area of borrower	Addis Alem	32	46.3
	Bahir Dar Cooperative	37	53.7
Age	< 25 years	6	8.7
	26 - 35 years	27	39.1
	36 - 45 years	19	27.5
	> 46	17	24.6
Sex	Female	17	24.6
	Male	52	75.4
Marital Status	Single	12	17.4
	Married	31	44.9
	Divorced	14	20.3
	Windowed	12	17.4

Level of Education	Illiterate	10	14.5
	Grade 1- 8	15	21.7
	Grade 9 -12	26	37.7
	12 completed and above	18	26.1
Dependant with in a family	Zero	6	8.7
	One	26	37.7
	Two	16	23.2
	Three	9	13
	Four and above	12	17.4
Purpose of Credit	Main	15	21.7
	Second	37	53.6
	Others	17	24.6

78 questionnaires distributed, 69 used for this analysis the response rate was 88.6%. As indicated in Table 1 among 69 respondents, 53.7% of the beneficiary was borrowed from Bahir-Dar cooperative and the rest 46.3% were from Addis-Alem cooperative. Regarding the respondents' age of the beneficiary only 8.7% of the respondents were less than 25 years, 39.1% of the respondents were between 26- 35, 27.5% of the respondents were between the age category 36 – 45 years and 24.6% of the respondents were above 45 years. The majority of respondents felled in the age category 26 - 35 years. This may indicated that the majority of both participants are under in the same age of the participants' category (25 - 35).

With regarding to respondents sex, the majority of the beneficiary 75.4% were males and 25.6% were females. This revealed that male were more beneficiary than in female. With regard to their marital status, about 17.4% were single, 44.9% were married, 20.3% were divorced and 17.4% were windowed. This may show that the highest benefitted are married. As depicted in the table 14.5% of the respondents were can't read and write. This indicated that the borrowers don't keep financial records, Whereas, 21.7% from level of education grade 1-8

and 37.7% from level of education grade 9-12 and 26.1% from level of education above grade 12 also used financial recording for their activities.

4.2. Repayment status versus socio-demographic, supervision, consultant and sources of repayment variables

Table 2: Summary results of repayment status versus socio-demographic variables

Demographic Characteristics		Repayment Status		Chi-Square P-value
		Non-defaulters	Defaulters	
Area of borrower	Addis Alem	20(48.8)	21(51.2)	0.628
	Bahir Dar Cooperative	12(42.9)	16(57.1)	
Age	< 25 years	3(50.0)	3(50.0)	0.976
	26- 35 years	13(48.1)	14(51.9)	
	36 - 45 years	8(42.1)	11(57.9)	
	>46	8(47.1)	9(52.9)	
Sex	Female	8(47.1)	9(52.9)	0.948
	Male	24(46.2)	28(53.8)	
Marital Status	Single	4(36.4)	7(63.6)	0.555
	Married	16(50.0)	16(50.0)	
	Divorced	8(57.1)	6(42.9)	
	Windowed	4(33.3)	8(66.7)	
Level of Education	Illiterate	4(28.6)	10(71.4)	0.045*
	Grade 1-8	3(33.3)	6(66.7)	
	Grade 9 -12	12(46.2)	14(53.8)	
	12 completed and above	13(65.0)	7(35.0)	
Dependant with in a family	Zero	2(33.3)	4(66.7)	0.240
	One	16(61.5)	10(38.5)	
	Two	6(37.5)	10(62.5)	
	Three	2(22.2)	7(77.8)	
	Four and above	6(50.0)	6(50.0)	
Purpose of Credit	Main	7(46.7)	8(51.4)	0.877
	Second	18(48.6)	19(51.4)	
	Others	7(41.2)	10(58.8)	

Key:- (*) the relationship is significant at $\alpha = 0.05$

As shown in table 2, there were 78 respondents in the cross sectional study out of which 37 (46.4%) are defaulter and the rest 32(53.6%) are none defaulter at the time of data collection. The proportion of defaulter for a respondent whose educational status were illiterate accounted a larger in the sample (about 71.4%) compared to those whose educational status were grade 1-8(67.7%), grade 9-12(53.8%), and 12 complete and above (35.0%). Chi-square test also shows that the repayment status is significantly associated with educational status (0.045) which shows it is a determinant factor of repayment of credit. Similarly, the proportion of defaulter for a beneficiary who borrowed from Bahir-Dar cooperative accounted a larger in the sample (about 57.1%) compared to those who borrowed from Addis Alem (51.2). But it is not statistically significant. Furthermore, purpose of credit, marital status, age, number of dependant and sex are not statistically associated with repayment status. Table 2 revels in detail.

Table 3:- Summary results of repayment status versus supervision, consultant and sources of repayment variables

Variables on Supervision, Consultant and sources of repayment		Repayment Status		Chi-Square P-value
		Non-defaulters	Defaulters	
Any source of credit other than your basic Dairy cooperative	Yes	22(48.9)	23(51.1)	0.567
	No	10(41.7)	14(58.3)	
The repayment period set by your basic Dairy cooperative suitable	Yes	21(70)	9(30)	0.000*
	No	11(28.2)	28(71.8)	
Prompts that to repay the credit on time	To build credibility with the dairy cooperatives	17(60.7)	11(39.3)	0.991
	To get another credit	14(60.9)	9(39.1)	
The causes that force to default	Poor business performance	0(0)	4(100)	0.431
	Diversify the funds to unprofitable uses	1(20.0)	4(80)	
	Poor timing	0(0)	2(100)	
	Many dependants	0(0)	7(100)	

The effect of repayment on your area occupation and/or enterprises	Has no effect on the enterprises	9(40.0)	14(60.0)	0.466
	Leads to reduction in your hybrids & modern milk processing equipments	10(40)	15(60)	
	Not able to make any savings out of your profits	8(61.5)	5(38.5)	
	Results in high depression and which in turn affects the relationship with customers and leading the poor business performance	5(62.5)	3(37.5)	
Supervised regarding credit/loan utilization by your basic dairy cooperative staff	Yes	18(54.5)	15(45.5)	0.007*
	No	14(38.9)	22(61.1)	
Supervised for your credit repayment performance	Yes	19(43.2)	25(56.8)	0.480
	No	13(52.0)	12(48.0)	
The supervision of staff adequate in order to improve your default of the credit/loan	Yes	23(63.9)	13(36.1)	0.002*
	No	9(27.3)	24(72.7)	
Consider supervision as being important for credit/loan repayment	Yes	19(57.6)	14(42.4)	0.048*
	No	13(36.1)	23(63.9)	
Training before receiving the credit/loan in order to efficiently utilize it	Yes	25(62.5)	15(37.5)	0.002*
	No	7(24.1)	22(75.9)	
The training has helped you to increase your income and repay the credit/loan on time	Yes	20(80)	5(20.0)	0.001*
	No	8(25)	24(75)	

Key:- (*) the relationship is significant at $\alpha = 0.05$

As shown in table 3, the proportion of defaulter for a beneficiary who have not income source before the credit program accounted a larger in the sample (about 71.8%) compared to those who have not income source before the credit program (30.0%). Chi-square test also shows that the repayment status is significantly associated with source of credit other than basic Dairy cooperative. The proportion of defaulter for a beneficiary who are not supervised regarding credit/loan utilization accounted a larger in the sample (about 61.5%) compared to those who are supervised regarding credit/loan utilization (30.0%). Chi-square test also shows that the repayment status is significantly associated with supervision regarding credit/loan utilization by dairy cooperative staff. The proportion of defaulter for respondents who said supervision is not adequate in order to improve default of the credit/loan accounted a larger in the sample (about 72.7%) as compared to those who said supervision is adequate in order to improve default of the credit/loan (30.1%). Chi-square test also shows that the repayment status is significantly associated with the adequacy of supervision made by staff. Similarly, the proportion of defaulter for beneficiary who said supervision is not important for credit/loan repayment accounted a larger in the sample (about 63.9%) as compared to those who said supervision is important for credit/loan repayment (42.4%). Chi-square test also shows that the repayment status is significantly associated with importance of supervision.

The proportion of defaulter for respondents who are not trained before receiving the credit/loan accounted a larger in the sample (about 75.9%) as compared to those who are trained before receiving the credit/loan (30.1%). Chi-square test also shows that the repayment status is significantly associated with the training before receiving the credit/loan. Similarly, the proportion of defaulter for respondents who said training didn't help me to increase my income accounted a larger in the sample (about 75.0%) as compared to those who said training has help me to increase my income (20.0%). Chi-square test also shows that the repayment status is significantly associated with the training

helped them. Furthermore, the effect of repayment on your area occupation and/or enterprises, causes that force to default, source of credit other than your basic dairy cooperative and prompts that to repay the credit on time are not significantly related with repayment status. The information above are presented Table 3

Table 4: Summary results of repayment status versus Purpose of credit of repayment variables

Variables		Repayment Status		Chi-Square P-value
		Non-Defaulters	Defaulters	
Purpose of credit	To buy additional cattle	7(46.7)	8(53.3)	0.293
	To Construct cattle house	5(83.3)	1(16.7)	
	To buy cattle food & Health care	7(41.2)	10(58.8)	
	To Buy equipments & other materials	13(41.9)	18(58.1)	
The amount of credit received adequate for the intended purpose	Yes	18(69.2)	8(30.8)	0.003*
	No	14(32.6)	29(67.4)	
The amount of credit requested	<5000	15(83.3)	3(16.7)	0.000*
	5000 - 10,000	5(62.5)	3(37.5)	
	> 20, 000	2(16.7)	10(83.3)	
Spend the entire credit on purposes specified in the loan agreement	Yes	20(43.5)	26(56.5)	0.495
	No	12(52.2)	11(47.8)	
The cause(s) for spending part/entire credit/loan on non-intended purposes	The credit amount was not enough for the intended purpose	4(66.7)	2(33.3)	0.339
	The credit/loan agreement did not coincide with my initial intention	4(66.2)	2(50.0)	
	Market problem	2(50.0)	2(50.0)	
	To repay another loan	2(40.0)	3(60.0)	
	To make a more profitable business	0(0)	3(100)	
The sentiment that	Yes	27(48.2)	29(51.8)	0.004*

might be sued in case of failure to repay the credit/loan	No	5(38.5)	8(61.5)	
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Key:- (*) the relationship is significant at $\alpha = 0.05$

As shown in table 4, the proportion of defaulter for a beneficiary who said amount of credit received are not adequate for the intended purpose accounted a larger in the sample (about 67.4%) compared to those who said amount of credit received are adequate for the intended purpose (30.8%). Chi-square test also shows that the repayment status is significantly associated with amount of credit received adequate for the intended purpose. The proportion of defaulter for a respondent whose requested amount of credit were more than 20,000 accounted a larger in the sample (about 83.3%) compared to those whose requested amount of credit were between 5000 and 20000 (37.5%) and less than 5000 (16.7%). Chi-square test also shows that the repayment status is significantly associated with amount of credit requested. Furthermore, purpose of credit, cause(s) for spending part/entire credit/loan on non-intended purposes and spend the entire credit on purposes specified in the loan agreement are not statistically related with repayment status. The information above is presented Table 4.

Chapter 5 Econometrics Analysis

5.1. Bivariate Analysis for Predicting Repayment Status

The relationship between each independent variable and repayment status is presented in Table 5. As can be seen from this Table, repayment status is significantly related with Level of education, the repayment period suitable, supervised regarding credit/loan utilization, adequacy of supervision made by staff, training before receiving the credit, importance of supervision, the training helped them, the amount of credit requested and amount of credit received adequate at 5% of significant level. The probability of being default for a beneficiary whose educational status were illiterate is about 5 times higher than that of a beneficiary whose educational status were 12 complete and above (Crude OR=4.64, 95%CI= 1.06-20.38). Similarly, the probability of defaulter for a beneficiary whose educational status were grade 1-8 is about 4 times higher than that of a beneficiary whose educational status were 12 complete and above (Crude OR=3.72, 95%CI=1.07-19.59).

The probability of being default for a beneficiary who said repayment period set by basic dairy cooperative is not suitable is about 6 times higher than that of a beneficiary who said repayment period set by basic dairy cooperative is suitable (Crude OR=5.94, 95%CI= 2.08-16.92). The probability of being default for a beneficiary who are not supervised regarding credit/loan utilization is about 4 fold times higher than those who are not supervised regarding credit/loan utilization (Crude OR=4.12, 95%CI=1.44-11.69). The probability of being default for a beneficiary who said supervision is not adequate in order to improve default of the credit/loan is about 5 fold times higher than those who said supervision is adequate in order to improve default of the credit/loan (Crude OR=4.72, 95%CI=1.69-13.14).

The probability of being default for a beneficiary who are not trained before receiving the credit/loan is about 5 fold times higher than those beneficiary

who trained before receiving the credit/loan (Crude OR=5.24, 95%CI=1.81-15.19). Furthermore, the probability of being default for a beneficiary whose requested amount of credit more than 10,000 birr is about 96% lower than those beneficiary whose requested amount of credit less than 5000 birr (Crude OR=0.04, 95%CI=0.01-0.28). The probability of being default for a beneficiary whose requested amount of credit between 5000 and 10,000 birr is about 88% lower than those beneficiary whose requested amount of credit less than 5000 birr (Crude OR=0.12, 95%CI=0.02-0.97).Table 5 reveals this in detail.

5.2. Multivariate Analysis for Predicting Repayment Status

One problem of bivariate approach is that it ignores the possibility that a collection of variables, each of which is weakly associated with the outcome, can become an important predictor of the outcome when taken together. It is for this reason; p-value of 0.25 was used for selection of variables that were candidates for the multivariate analysis from single covariate findings. The major predictor factor that affects repayment status are level of education, the repayment period suitable, supervised regarding credit/loan utilization, adequacy of supervision made by staff, training before receiving the credit and the training helped them.

After adjusting other covariates, the probability of being default for a beneficiary whose educational status were illiterate is about 4 fold times higher than those beneficiary whose educational status were 12 complete and above (Adjusted OR=3.77, 95%CI= 1.10-47.04). The probability of being default for a beneficiary who said repayment period set by basic dairy cooperative is not suitable is about 3 fold times higher than those beneficiary who said repayment period set by basic dairy cooperative is suitable. (Adjusted OR=3.48, 95%CI=1.78-15.05). The probability of being default for a beneficiary who are not supervised regarding credit/loan utilization is about 5 fold times higher than those who are not supervised regarding credit/loan utilization (Adjusted OR=5.16, 95%CI=1.13-23.5).

The probability of being default for a beneficiary who said supervision is not adequate in order to improve default of the credit/loan is about 5 fold times higher than those who said supervision is adequate in order to improve default of the credit/loan (Adjusted OR=5.23, 95%CI=1.44-15.04). The probability of being default for a beneficiary who are not trained before receiving the credit/loan is about 5 fold times higher than those beneficiary who trained before receiving the credit/loan (Adjusted OR=5.19, 95%CI=1.19-27.27). Furthermore, the probability of being default for a beneficiary who said training didn't helped me to increase my income and repay the credit/loan on time is about 6 fold times higher than those beneficiary who said training has helped me to increase my income and repay the credit/loan on time (Adjusted OR=6.23, 95%CI=1.46-27.34). Table 5 reveals this in detail.

Table 5. Multivariate and Bivariate Analysis logistic regression result for different Socio-economic, Demographic, and Supervision, Consultant and Sources of repayment

Variables		Bivariate logistic regression		Multivariate logistic regression	
		Crudes Odds Ratio (95% CI)	Cruds Odds Ratio P-value	Adjusted Odds Ratio (95% CI)	Adjusted Odds Ratio P-value
Level of Education	Illiterate	4.64(1.06-20.38)	0.042*	3.77(1.10-47.04)	0.031*
	Grade 1-8	3.72(1.07-19.59)	0.048*	5.92(0.47-75.32)	0.171
	Grade 9 -12	2.17(0.65-7.19)	0.122	1.70(0.26-11.35)	0.584
	12 completed and above	1	-	1	
The repayment period suitable	No	5.94(2.08-16.92)	0.007*	3.48(1.78-15.05)	0.046*
	Yes	1		1	
Supervised regarding credit/loan utilization	No	4.12(1.44-11.69)	0.008*	5.16(1.13-23.5)	0.034*
	Yes	1		1	

Adequacy of supervision made by staff	No	4.72(1.69-13.14)	0.003*	5.23(1.44-15.04)	0.002*
	Yes	1		1	
Training before receiving the credit	No	5.24(1.81-15.19)	0.002*	5.19(1.19-27.27)	0.002*
	Yes	1		1	
The training helped them	No	12.00(3.38-42.02)	0.006*	6.23(1.46-27.34)	0.034*
	Yes	1		1	
Amount of credit received adequate	No	4.66(1.63-13.31)	0.004*	4.23(0.99-6.89)	0.148
	Yes	1		1	
The amount of credit requested	<5000	0.04(0.01-0.28)	0.001*	0.40(0.01-6.77)	0.216
	5000 - 10,000	0.12(0.02-0.97)	0.046*	0.38(0.01-27.62)	0.659
	> 10, 000	1		1	
Importance of supervision.	No	2.41(1.02-6.33)	0.045*		
	Yes	1			
Dependant with in a family	Zero	2.00(0.26-15.38)	0.121		
	One	1.625(0.15-2.48)	0.182		
	Two	1.67(0.37-7.61)	0.123		
	Three	3.50(0.51-24.27)	0.167		
	Four and above	1			

(*) Odds Ratio is a significant at $\alpha = 0.05$

Chapter 6 Conclusions and Recommendations

The purpose of this last chapter is to build a general summary concerning the whole study and provide conclusions resulted from the findings of the study and at last to forward recommendations for the conclusions.

Based on the findings obtained from the previous chapter, points are summarized for the purpose of forwarding concluding comments concerning the overall results of the study, hence concluding remarks are presented below.

6.1 Conclusions

The purpose of the study is to find out or investigate the determinants of credit default risk and the outcome of credit repayment on dairy cooperatives, families, and the community in Bahir Dar city. Hence its main objective is to assess factors determining credit default risk related to repayment status of borrowers of dairy cooperatives that is to study the relationship that may exist, between repayment status and socio-demographic, supervision, consultant and source of repayment variable. Repayment status and supervision, consultation and source of repayment and Repayment status and purpose of credit,

The researcher has also tried to identify the relationship between credit risk and the above stated independent variables that is repayment status and socio-demographic, supervision, consultant and source of repayment variable. Repayment status and supervision, consultation and source of repayment, Repayment status and purpose of credit, by applying econometrics analysis test such as bivariate and multi variate analysis tests.

For the purpose of satisfying this objective, a structured questionnaire were developed and distributed to 78 beneficiaries of dairy cooperatives of which 69 questionnaires were filled and returned by respondents.

On the basis of the conducted required Statistical and Econometrics analysis as well as study hypotheses testing's the under mentioned conclusions are forwarded:

- The results of the study indicate the existence of a strong positive/material relationship between Level of Education and repayment status of loan by borrowers. The chi-square test for this variable also shows the existence of a strong relationship between the explanatory variable education level and the explained variable repayment status. And depicts that it is the most important factor that determines the repayment status as compared to the other factors stated in the socio demographic variables of beneficiaries. The bivariate and multivariate analysis has also resulted the same result, that is the significance of educational level in affecting repayment status. Hence, the study concludes that educational level is the most important determinant factor that affects the repayment status of loan by beneficiaries of dairy cooperatives.
- The results of the study also indicates that the existence of a strong positive/material relationship between The repayment period set by your basic Dairy cooperative suitable, Supervised regarding credit/loan utilization by your basic dairy cooperative staff , The supervision of staff adequate in order to improve your default of the credit/loan , Consider supervision as being important for credit/loan repayment , Training before receiving the credit/loan in order to efficiently utilize it , The training has helped you to increase your income and repay the credit/loan on time and repayment status of loan by borrowers. The chi-square test for these variables also shows the existence of a strong relationship between these explanatory variables and the explained variable repayment status. And depicts that they are the most important factor that determines the repayment status as compared to the other factors stated in the supervision and consultation variables. These variables have been found significant at 5%, which rejects the null hypothesis. The bivariate and

multivariate analysis has also resulted the same result, which is the significance of these above stated variables in affecting repayment status. Hence, the study concludes that these variables are the most important determinant factor that affects the repayment status of loan by beneficiaries of dairy cooperatives.

- Again the results of the study indicates that the existence of a strong positive/material relationship between the amount of credit received adequate for the intended purpose , the amount of credit requested, the sentiment that might be sued in case of failure to repay the credit/loan and repayment status of loan by borrowers. The chi-square test for these variables also shows the existence of a strong relationship between these explanatory variables and the explained variable repayment status. And depicts that they are the most important factors that determine the repayment status as compared to the other factors stated in the purpose of credit variables. These variables have been found significant at 5%, which also rejects the null hypothesis, that says there is no relationship between these variables and the dependent variable. The bivariate and multivariate analysis has also resulted the same result, that is the significance of amount of credit received adequate for the intended purpose, the amount of credit requested, and the sentiment that might be sued in case of failure to repay the credit/loan in affecting repayment status. Hence, the study concludes that these variables are the most important determinant factor that affects the repayment status of loan by beneficiaries of dairy cooperatives.
- As the results of the bivariate and multivariate analysis indicate, the variables Educational level, Supervised regarding credit/loan utilization by your basic dairy cooperative staff , The supervision of staff adequate in order to improve your default of the credit/loan , Consider supervision as being important for credit/loan repayment , Training before receiving the

credit/loan in order to efficiently utilize it have a folded effect in determining the defaulter and non defaulter performance of beneficiaries of dairy cooperatives and the remaining other variables in the categories have no a significant impact on the repayment status of loan by beneficiaries.

In general the study concludes that the stronger effort by the concerned body of the local authorities and cooperative members to enhance the capacity and psycho social impact of beneficiaries being defaulter and non defaulter will contribute for the stronger in the capacity development of the beneficiaries as well as the dairy cooperatives.

6.2 Recommendations

The main objective of this study is to find out or investigate the determinants of credit default risk on dairy cooperatives, families, and the community in Bahir Dar city. On the basis of the findings of the study mentioned in the conclusion part the researcher has outlined the following recommendations:

- The results of the study discovered that educational level has positive/material influence on the repayment status of loan by beneficiaries of dairy cooperatives.. As the result, the investigator recommends that the local authorities and the cooperative members have to do their level best to increase the literate rate of the beneficiaries by applying different mechanisms such as shifting/night enrollment mechanisms, so that the loan taken will be used for the intended purpose and the repayment status will be improved.
- The results of the study also indicated that : The repayment period set by your basic Dairy cooperative suitable, Supervised regarding credit/loan utilization by your basic dairy cooperative staff , The supervision of staff need to be adequate in order to improve your default of the credit/loan , Consider supervision as being important for credit/loan repayment ,

Training before receiving the credit/loan in order to efficiently utilize it , The training has helped you to increase your income and repay the credit/loan on time have positive/material influence on the repayment status of loan by beneficiaries of dairy cooperatives. Therefore, the investigator strongly recommends that the concerned body of the regions and local authorities such as Regional Cooperative Agency/Municipality cooperative office has to arrange and provide an awareness raising trainings on the issues of these stated variables to beneficiaries of the target cooperatives and to members of other cooperatives.

- The study has also finds out the existence of a positive/material relationship between the amount of credit received adequate for the intended purpose , the amount of credit requested, the sentiment that might be sued in case of failure to repay the credit/loan and repayment status. Hence, the researcher recommends that the Regional Cooperative Agency and Municipality cooperative office have to work on the sustained implementation capacity building activities such as experience sharing with other cooperatives, training on small business plan and refreshment training on existing rules and regulations of cooperatives, record keeping and documentation practices, so that the beneficiaries become well aware of about the benefits of respecting rules ,regulations and updated record keeping, as the result the risk of being defaulter becomes highly minimized.

At the end, the investigator strongly recommends that all concerned bodies of the Regional Cooperative Agency/Municipality cooperative office and local authorities to devote all the required resources in enhancing the volume of repayment status by exerting their great support on key determinant factors such as: Initiating beneficiaries for increased access to education, implementing consistent supervision and consultation and enabling communities get accessed to different subject matter trainings and awareness creation session. Thus, the practice of quality lending and collection of

repayment becomes the tradition of the target beneficiaries of the study and then to the general community of the city.

6.3. Future Research Direction

This study has find out the relationship between the explanatory and explained variable of the problem being studied with in the stated limitation of the study outlined at the beginning of this paper, therefore, further research may be required to study other factors which are not explained in this study. In addition the study relied on the perception of respondents thus there should be other research which can be studied on repayment status by considering the perception and objective of the data. This paper also serves as a reference to practitioners, in their area of engagement on related topics and for further advancement of the study.

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Appendix A. Adis Alem Dairy Coop. Repayment and Default Rates (Amounts in ETB – Ethiopian Birr)

Performance in Years	Credit Disbursement(ETB)	Amounts recovered based on credit agreement	Outstanding balance (ETB)	Default rate %
2002	401,970.00	265,300.20	136,669.80	34
2003	574,351.00	390,557.68	183,793.32	32
2004	715,846.00	445,685.72	270,160.28	37.74
2005	832,263.00	739,299.23	92,963.77	11.17
2006	751,240.00	540,892.80	210,347.20	28

Source: Author's compilation from Adis Alem basic dairy Coop office data, May 3, 2013

Appendix B. *Bahir-Dar Dairy Coop.* Repayment and Default Rates (Amounts in ETB – Ethiopian Birr)

Performance in Years	Credit Disbursement(ETB)	Amounts recovered based on credit agreement	Outstanding balance (ETB)	Default rate %
2002	677,235.00	250,576.95	426,658.05	63
2003	813,903.00	236,031.87	577,871.13	71
2004	958,656.00	151,084.18	807,571.82	84.24
2005	1,102,944.00	205,919.65	897,024.35	81.33
2006	1,390,851.00	80,391.19	1,310,459.81	94.22

Source: Researcher's compilation from Bahir-Dar basic dairy Coop. office data, May 6, 2013.

Appendix I - Survey instrument (English version)

Mar 2013

Dear Sir/Madam,

Subject: Letter to research questionnaire

The attached questionnaire forms are part of the research project, which I am conducting on the topic of “Credit Risk and its Determinants of dairy cooperatives in Bahir-dar Town”. The objective of the questionnaire is to identify causes of Credit Risk, how it affects the repayment performance and the impact on Cooperatives, members and the society.

Possible effort has been made to ensure that the questionnaire can easily be understandable, so that it can be filled timely. In order to guarantee that replies are anonymous and used only in summary forms, you are not supposed to write your name on the survey questionnaire. Moreover, once the summary form is prepared the respondent’s filled questionnaire will be safely disposed immediately. Your frank response to the following questions will assist me in identifying areas for improvement.

Therefore, as the survey questionnaire is important for the timely and successful finalization of my Master’s degree in Accounting and Finance; I kindly request you to complete the attached questionnaire genuinely.

Thank you for your co-operation!

Additional Information:

I. Put a tick mark \checkmark in the boxes \square or in the blank spaces _____ that correspond your answer.

II. Circle the letter of the choice that is most appealing to you, e.g. ©

III. Write your answer in the space provided is so required. Your answer.

IV. For open-ended questions you may use the blank space provided _____ or you may use additional paper, if the space is not adequate. Your answer.

V. For further information, you perhaps contact the investigator Hailemariam Messele by the following address: Tell: +251-918 71 36 71and E-mail: hailemariammessele@yahoo.com

Date _____ G.C/E.C.

SECTION I: Respondent background information

1	Area of borrower_____ Basic Dairy cooperative.	
2	How old are you (Age)?_____ years	
3	What is your gender?	
	Male <input type="checkbox"/> 1	Female <input type="checkbox"/> 0
4	What is your position in marital status?	
	1. Single	<input type="checkbox"/>
	2. Married	<input type="checkbox"/>
	3. Divorced	<input type="checkbox"/>
	4. Widowed	<input type="checkbox"/>

5	Level of education?	
	1. Illiterate	<input type="checkbox"/>
	2. Grade 1-8	<input type="checkbox"/>
	3. Grade 9-12	<input type="checkbox"/>
	4.Certificate – Bachelor (please describe)_____	<input type="checkbox"/>
	4. Above Bachelor (please describe)_____	<input type="checkbox"/>

6	How many dependents are there with in/outside the family unit?	
	1. Zero	<input type="checkbox"/>

	2. One	<input type="checkbox"/>
	3. Two	<input type="checkbox"/>
	4. Three	<input type="checkbox"/>
	5. Four and more (please describe) _____	<input type="checkbox"/>

7	What was the purpose for which the credit was taken?	
	1. Main	<input type="checkbox"/>
	2. Second	<input type="checkbox"/>
	3. Others (please specify)	<input type="checkbox"/>

SECTION II: CREDIT/ LOAN UTILIZATION

8.	What was the purpose for which the credit was taken?	
	1. Buy additional cattle	<input type="checkbox"/>
	2. Construction cattle house	<input type="checkbox"/>
	3. Buy Cattle food & Health care	<input type="checkbox"/>
	4. Buy equipments & other materials	<input type="checkbox"/>

9. Was the amount of credit received adequate for the purpose that you projected?

Yes ☐ 1

No ☐ 0

10. If your response is No for question number 9, what was the amount you request? _____ Ethiopian Birr (ETB)

11. Did you spend the entire credit on purposes specified in the loan agreement?

Yes ☐ 1

No ☐ 0

12. If your response is No for question number 11, what was/were the cause(s) for spending part/entire credit/loan on non-intended purposes?

1. The credit amount was not enough for the intended purpose ☐
2. The credit/loan agreement did not coincide with my initial intention ☐
3. Market problem ☐

4. To repay another loan ☐

5. To make a more profitable business ☐

6. Other (please describe) _____ ☐

13. Do you have the sentiment that you might be sued in case of failure to repay the credit/loan?

Yes ☐ 1

No ☐ 0

SECTION III: CREDIT/LOAN REPAYMENT

14. Did you have any source of credit other than your customer Microfinance Institution?

Yes ☐ 1

No ☐ 0

15. If your response for question number 16 is Yes, what is your source?

1. Iqqub (rotating credit association)

2. Iddir (mutual aid society)

3. Money lenders

4. Friends/relatives

5. Banks

6. Other (please describe) _____

16. How many times and how much money did you receive from these sources during the past 5 years?

<u>Sources</u>	<u>Year</u>	<u>Amount of credit/loan</u>
	2006	
	2005	
	2004	
	2003	
	2002	

17. Have you finished repayment on credit from these sources?

Yes ☐ 1

No ☐ 0

18. Is the repayment period set by your Basic dairy cooperative plc suitable in your opinion?

Yes ☐ 1

No ☐ 0

19. If your response for question number 20 is No, recommend a suitable period?

20. What is the status of your recent credit/loan?

1. Fully repaid
2. Repayment schedule
3. Repayment in arrears

21. If your response for question number 22 is repayment in arrears, what was the problem for the credit to be in arrears?

1. Credit based business activity was unprofitable
2. Used some of the credit for household living expense
3. Sold on credit but did not get paid back on time
4. Loss of assets acquired by the credit/loan
5. Other (please describe) _____

22. Do you identify the cost of credit/loan default to be high?

Yes ☐ 1

No ☐ 0

23. If your response for question number 24 is Yes, which one of the following is most important in forcing you to repay the credit/loan in time?

1. Claim against personal wealth
2. Claim against guarantors
3. Social sanction (e.g. loss of social status)
4. Fear of losing additional credit/loan in future
5. Other (please describe) _____

24. What prompts you to repay the credit on time? (Non-defaulters)

1. To build credibility with the dairy cooperatives
2. Because of good business performance
3. To get another credit

25. What are the causes which force you to default? (for defaulters)

1. Poor business performance

2. Diversify the funds to unprofitable uses
3. Poor timing
4. Many dependants
5. Other (please describe) _____

26. What forces you to repay the remaining balance after you fail to repay it as schedule?

1. Desire to complete outstanding credit/loan
2. Urgent need for collateral used to secure the credit
3. Receipt of demand notice
4. Improvement of business

27. What is the effect of repayment on your area occupation and/or enterprises?

1. Has no effect on the enterprises
2. Leads to reduction in your hybrids & modern milk processing equipments
3. Not able to make any savings out of your profits
4. Results in high depression and which in turn affects the relationship with customers and leading the poor business performance

SECTION IV: SUPERVISION, CONSULTATIVE VISITS AND TRAINING

28. Have you ever been supervised regarding credit/loan utilization by your basic dairy cooperative staff?

Yes ☐ 1

No ☐ 0

29. Have you ever been supervised for your credit repayment performance?

Yes ☐ 1

No ☐ 0

30. If your response for question number 31 is yes, how many times you supervised?

_____ times

31. Was the supervision of staffs adequate in order to improve your default of the credit/loan?

Ys ☐ 1

No ☐ 0

32. Do you consider supervision as being important for credit/loan repayment?

Yes ☐ 1

No ☐ 0

33. Did you get any training before receiving the credit/loan in order to efficiently utilize it?

Yes ☐ 1

No ☐ 0

34. If your response for question number 35 is Yes, what kind of training was it?

1. Dairy asset management

2. Marketing

3. Saving

4. Bookkeeping

5. Dairy Production & Technology usage

6. Other (please describe)_____

35. Do you think that the training has helped you to increase your income and repay the credit/loan on time?

Yes ☐ 1

No ☐ 0

SECTION V: INCOME AND WEALTH

38. What was your annual income from activities financed by credit/loan?

1. Below ETB 1,000.00

2. Between ETB 1,001.00 – 2,000.00

3. Between ETB 2,001.00 – 3,000.00

4. Between ETB 3,001.00 – 4,000.00

5. Between ETB 4,001.00 – 5,000.00

6. Above ETB 5, 000.00

39. Do you have other/new sources of income currently?

Yes ☐ 1

No ☐ 0

40. If your response for question number 39 is Yes, what are these sources and annual income from them?

Source

Annual income

41. What is the estimated value of your assets currently?

1. Below ETB 1,000.00
2. Between ETB 1,001.00 – 3,000.00
3. Between ETB 3,001.00 – 5,000.00
4. Between ETB 5,001.00 – 7,000.00
5. Between ETB 7,001.00 – 10,000.00
6. Above ETB 10,000.00

SECTION VI: EMPLOYMENT AND PRODUCTION

42. How many workers are there other than yourself helped with your work currently?

_____ number

43. If you indicate a number of workers in your business for question number 42, who are they?

1. Family members
2. Apprentice
3. Hired labor
4. Other (please describe)_____

44. How dairy production changed since you get credit from your cooperative during the past 5 years?

<u>Year</u>	<u>Product type</u>	<u>Quantity</u>
2006		
2005		
2004		
2003		
2002		

SECTION VII: EXPENDITURES AS CREDIT DEFAULT RISK

44. Do your family and yourself have access to health service currently?

Yes ☐ 1

No ☐ 0

45. If your response for question number 44 is Yes, who is/was the bearer of medical expense?

1. Myself
2. Served free
3. Other family members
4. Relatives
5. Myself and other family members

46. If you cover your medical expenditure, what is your average expenditure during the last 12 months/5 years? _____ETB for 12 months
_____ETB for 5 years

47. Is/was your medical expenditure determines your credit repayment?

Yes ☐ 1

No ☐ 0

48. Is/was you or your children going to school for education?

Yes ☐ 1

No ☐ 0

49. If your response for question number 48 is Yes, is there any payment for education?

Yes ☐ 1

No ☐ 0

50. If your response for question number 49 is Yes, is/was your education expenditure determines your credit repayment?

Yes ☐ 1

No ☐ 0

51. What is the average annual consumption expenditure of your household?

1. During the last 12 months? _____ETB

2. During the last 5 years? _____ETB

52. Is/was the average increment of annual consumption hurts your credit repayment rate?

Yes ☐ 1

No ☐ 0

SECTION VIII: MARKET SITUATION AND CREDIT BENEFIT

53. Please list the major products and/or services produced from your business that is financed by the credit/loan from your customer Microfinance Institution?

1. _____
2. _____
3. _____

54. How was the demand for your product that you produced and/or service rendered?

1. High
2. Average
3. Low

55. What was the trend of profits in the level of your business in the past 5 years?

1. Increased
2. Decreased
3. Stayed the same

56. If your response for question number 55 is increased, what do you think is the reason behind?

1. Sufficient fund
2. Availability of market
3. Quality advantage
4. Favorable price
5. Other (please describe)_____

SECTION IX: INFORMATION ON OTHER ISSUES

57. Did you have a saving account before participating in this credit and/or microfinance institution scheme? It may be modified as coops or cancel

Yes ☐ 1

No ☐ 0

58. If your response for question number 57 is Yes, what is the average amount that you manage to save monthly? _____ ETB

59. Do you keep accounting records for your activities that you take the loan?

Yes ☐ 1

No ☐ 0

60. If your answer for question number 59 is Yes, for what purpose you keep record?

1. To evaluate profit and loss
2. For loan repayment purpose
3. Other (please describe) _____

61. If your answer for question number 59 is No, explain the reason(s) of not keeping records?

1. Lack of knowledge
2. Transaction too small to keep a record
3. Other (please describe) _____

62. What is your overall opinion about the credit scheme?

Thank you for your participation in the study!

Appendix II - Survey instrument (Amharic version)

ጎንደር ዩኒቨርሲቲ

የቢዝነስና ኢኮኖሚክስ ትምህርት ቤት

የሂሳብ አያያዝ ትምህርት ክፍል

አካውንቲንግና ፋይናንስ ትምህርት ጥናት

ለባህርዳር ከተማ አስተዳደር መሰረታዊ የወተት ልማትና ግብይት ጎ/ስራ ማህበር ብድር ተጠቃሚ አባላት የተዘጋጀ

የጥናት መጠይቅ፡፡

የጥናቱ ዓላማ፤ የዚህ ጥናት ርዕስ “Credit risk and its determinants of dairy cooperatives market in Bahir Dar town ” ነው፡፡ የጥናቱን መጠይቅ ያዘጋጀው ኃ/ማርያም መሠለ ሲሆን በአሁኑ ጊዜ በጎንደር ዩኒቨርሲቲ የቢዝነስና ኢኮኖሚክስ ትምህርት ቤት የአካውንቲንግና ፋይናንስ የሁለተኛ ደግሪ ትምህርት ተማሪ ነው፡፡

የተከበሩ የጥናቱ ተሳታፊዎች፤

እርስዎ በዚህ ጥያቄና መልስ ላይ እንዲሳተፉ ተመርጠዋል፡፡ በዚህ ጥያቄና መልስ ላይ መሳተፍ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ ነው፡፡ የጥያቄና መልሱ ውጤት የተሳታፊዎች ማንነት ሳይ ለይ በአጥኝው እና በአማካሪው አማካኝነት ለጥናቱ ዓላማ ብቻ ይውላል፡፡ ስለዚህ ጥናቱ የሚካሄደው ለትምህርት ማሟያ ጽሑፍ ለመፃፍ ብቻ ይሆናል፡፡ ይህ በእንዳህ እንዳለ የጥናቱን ግኝት ጠቅላላ ጭማቂ ሀሳብ አጥኝዉ ትምህርቱን ከጨረሰ በኋላ ቢጠይቁ በፈለጉት ጊዜ ሊያገኙ ይችላሉ፡፡

ወርቃማ ጊዜዎን ተጠቅመው የጥናቱ ተሳታፊ በመሆንዎ በቅድሚያ ያእናመሰግናሉን !

ተጨማሪ መግለጫዎች፤

1. መጠይቁን ሲሞሉ እባክዎ ሥምዎን አይጥቁሉ፡፡
2. በምርጫ ጥያቄዎች ላይ ዕርስዎን ያሳመነዎትን አመራጭ በሳጥኑ ☐ ላይ የዚህን ☐ ምልክት በማድረግ ወይም የመረጡትን መልስ ተራ ቁጥር በማክበብ ይምረጡ ፡፡
3. በክፍት ቦታ (ዳቨሙላ) ጥያቄዎች ላይ የተሰጠው ክፍት ቦታ መልስዎ ካልበቃዎት ዕባክዎ ተጨማሪ ወረቀት ተጠቅመው ሀሳብዎን ይጻፍኩት ፡፡
4. ለተጨማሪ መረጃ አጥኝውን ኃ/ማርያም መሠለ በሚከተለው አድራሻ መጠየቅ ይችላሉ፡፡

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መጠይቁ የተሞላበት ቀን _____ ዓ.ም.

ክፍል አንድ፡ የግል ሁኔታ መግለጫ /ማብራሪያ/

1. በየትኛው መሰረታዊ የወተት ልማትና ግብይት ኅ/ስራ ማህበር ነው ብድር የሚጠቀሙት? _____

መሰረታዊ የወተት ልማትና ግብይት ኅ/ስራ ማህበር ፡፡

2. ዕድሜዎ ስንት ነው ? _____ ዓመት

3. ፆታ ?

ወንድ ☐ 1

ሴት ☐ 0

4. የጋብቻ ሁኔታ ?

1. ያላገባ/ች

2. ያገባ/ች

3. የፈታ/ች

4. የሞተበት/ባት

5. የትምህርት ደረጃዎ ?

1. ያልተማረ

2. ከ1- 8ኛ ክፍል

3. ከ9 -12 ክፍል

4. ከ12 ክፍል በላይ (ይግለጹልን) _____

6. ምን ያህል ሰዎች በዕርሰዎ ዕረዳትነት ከቤተሰብዎ ጋር ወይም ከቤተሰብዎ ውጭ በጥገኝነት ይኖራሉ ?

1. ዜሮ

2. አንድ

3. ሁለት

4. ሦስት

5. አራትና ከዚያ በላይ (ይግለጹልን) _____

7. በወሰዱት የብድር ገንዘብ ምን እየሰሩበት ነው ?

1. ዋና ስራ _____

2. ሁለተኛ ሥራ _____

3. ሦስተኛ ስራ _____

4. ሌሎች (እባክዎ ይግለጹልን) _____

ክፍል ሁለት፡የብድር ገንዘብ አጠቃቀም

8. ለምን ዓላማ ነው ብድሩን የወሰዱት ?

1. ለወተት ከብቶች መኖ አቅርቦት
2. ለአዲስ የወተት ከብት ዝርያዎች ግዥ
3. ለወተት ልማትና ግብይት የሚያስፈልጉ ተሽከርካሪዎችና ቋሚ ዕቃዎች ግዥ
4. ለወተት ከብቶች ህክምና አገልግሎት ወጭ
5. ለሌላ ሥራ (ይግለጹልን) _____

9. በብድር ያገኙት ገንዘብ ሊሰሩት ላቀደት ተግባር በቂ ነው?

አዎ ☐ 1

አይበቃም ☐ 0

10. ለጥያቄ ቁጥር 9 መልስዎ አይበቃም ከሆነ፤ ዕርሰዎ ምን ያህል ነበር የጠየቁት ? _____
የኢትዮጵያ ብር

11. በብድር በያገኙትን ጠቅላላ ገንዘብ በብድር ስምምነቱ መሰረት ለታሰበው ዓላማ ዕያዋለት ነው ?

አዎ ☐ 1

አይደሉም ☐ 0

12. ለጥያቄ ቁጥር 11 መልስዎ አይደለም ከሆነ፤ ለሌላ ተግባር ያዋሉበት ምክንያት ምንድን ነበር ወይም ምንድን ነው ?

1. ብድሩ ላሰብኩት ተግባር ስለማይበቃ
2. የብድር ስምምነቱ ውል ስለብድሩ ተግባር አይናገረም ነበር
3. የገበያ ችግር ስለነበር
4. ከሌላ ለወሰድኩት ብድር ክፍያ ስላዋልኩት
5. ለሌላ ትርፋማ ተግባር ወይም ንግድ ሥላዋልኩት
6. ሌላ (ይግለጹልን) _____

13. የተሰጠዎትን ብድር ለመክፈል በተሥማሙበት ቀን ባለመክፈልዎ ተከሰው ያውቃሉ?

አዎ ☐ 1

አላውቅም ☐ 0

14. ከተበደሩበት መሰረታዊ የወተት ኅ/ስራ ማህበር ሥለ ብድሩ አጠቃቀምና ቁጥጥር ተግዳሮት ወይም ችግር ገጥሞዎት ያውቃል ?

አዎ ☐ 1

አያውቅም ☐ 0

15. ለጥያቄ ቁጥር 14 መልስዎ አዎ ከሆነ፤ በትክክለኛው አካሄድ ብድሩን የማይጠቀሙ የማህበሩ አባሎች ላይ ምን አይነት

እርምጃ ወስደዋል ወይም እንዲወሰድ አድርገዋል ?

1. ብድሩን ለሰጠን መሰረታዊ ማህበራችን ተናግረዋል
2. ብድሩን ለሌላ ተግባር ያዋለውን ከስሸዋለሁ
3. ከማህበራችን እንዳይሰራ ማዕቀብ እንዲጣልበት አድርጌያለሁ

4. ሌላ (ይግለጹልን) _____

ክፍል ሦስት፡ ብድር አመላለስ

16. ብድር ካገኙበት መሰረታዊ የወተት ኅ/ስራ ማህበር ውጭ ሌላ ብዴር የሚያገኙበት ምንጭ አለዎ ?

አዎ ☐ 1

የለኝም ☐ 0

17. ለጥያቄ ቁጥር 16 መልሰዎ አዎ ከሆነ፤ የእርስዎ የብድር ምንጭ ምንድን ነው?

1. ዕቁብ

2. ዕድር

3. የአራጣ አበዳሪዎች

4. ጓደኞች ወይም ዘመዶች

5. ባንኮች

6. ሌላ (ይግለጹልን) _____

18. ከላይ በጥያቄ ቁጥር 17 ከጠቀሷቸው የብድር ምንጮች ውስጥ ባለፉት አምስት አመታት ምን ያህል ገንዘብ በብድር መልክ አገኙ?

አመት	የብድር ምንጭና የገንዘብ መጠን					
	ዕቁብ	ዕድር	የአራጣ አበዳሪ	ጓደኞች/ዘመዶች	ባንኮች	ሌሎች
2006 ዓ.ም						
2005 ዓ.ም						
2004 ዓ.ም						
2003 ዓ.ም						
2002 ዓ.ም						

19. ከጥያቄ ቁጥር 17 የብድር ምንጮች ያገኟቸውን ብድር ከፍለው ጨርሰዋል ?

አዎ ☐ 1

አልጨረስኩም ☐ 0

20. ያበደረዎ የወተት ኅ/ስራ ማህበር ለብድር አመላለስ ያስቀመጠው የጊዜ ሰላዳ ለዕርሰዎ ምቹ ነው ?

አዎ ☐ 1

ምቹ አይደለም ☐ 0

21. ለጥያቄ ቁጥር 20 መልሰዎ ምቹ አይደለም ከሆነ፤ ለዕርሰዎ የሚመችዎትን የብድር አመላለስ የጊዜ ሰላዳ ቢጠቅሱልን ? _____

22. እርስዎ የወሰዱት ብድር በምን ደረጃ ላይ ይገኛል?

1. ብድሬን ሙሉ በሙሉ ከፍያለሁ

2. በተቀመጠው የጊዜ ሰላዳ እየከፈልኩ ነው

28. ዕዳዎችን በመከፈያው ጊዜ ሳይከፍሉ ቆይተው አሁን የቀረበዎትን ዕዳ ዕንዲከፍሉ ያስገደደዎ ምክንያት ምንድን ነው ?

1. ውዝፍ እዳየን ከፍቶ ለመጨረስ ስለፈለኩ
2. በአስቸኳይ ያለኝ ንብረት እንዲያዝ ሥለተፈለገ
3. በማህበሩ ያለኝን ገንዘብ በዋስትና ዕንዳላጣው በመፍራት
4. መክፈል ዕንዳለብኝ ሥለተነገረኝ
5. የተሰማራሁበት ዘርፍ ስለተሻሻለ

29. ዕዳዎችን በመክፈልዎ ምክንያት በተሰማሩበት የሥራ ዘርፍ ምን አይነት ለውጥ ታዩ ?

1. ምንም አይነት ለውጥ የለም
2. የወተት ምርቱ ቀንሷል ወይም የወተት ምርት ግብይት ዕንቅስቃሴየ ቀንሷል
3. ከማተርፈው ትርፍ በቁጠባ መልክ ማስቀመጥ ወይም ተጨማሪ ዕጣ (Capital-share) አልቻልኩም
4. የደንበኞቹ ግንኙነትና የንግድ ዘርፌ ቀንሷል

ከፍል አራት፡ ቁጥጥር፤ የምክር ጉብኝት እና ስልጠና

30. ብድርን በአግባቡ አጠቃቀምን በተመለከተ በመሰረታዊ የወተት ኅ/ስራ ማህበሩ ሰራተኞች ቁጥጥር ተደርጎብዎት ያውቃሌ ?

አዎ ☐ 1

አያውቅም ☐ 0

31. ሥለወሰዱት ብድር የመመለስ አፈፃፀም ላይ ቁጥጥር እና የምክር አገልግሎት ተደርጎልዎት ያውቃል ?

አዎ ☐ 1

አያውቅም ☐ 0

32. ለጥያቄ ቁጥር 31 መልሰዎ አዎ ከሆነ፤ ምን ያህል ጊዜ ቁጥጥር ተደርጎበዎ ያውቃል? _____ ጊዜ

33. በማህበሩ ሰራተኞች የተደረገልዎ ቁጥጥር ብድርዎን ዕንዲከፍሉ ከማድረጉ አኳያ በቂ ነበር?

አዎ ☐ 1

አይበቃም ☐ 0

34. በማህበሩ ሰራተኞች የሚደረገው ቁጥጥር ለብድር አመላለሱ ጠቃሚ ነው ብለው ያስባሉ?

አዎ ☐ 1

አላስብም ☐ 0

35. ብድሩን ከማህበሩ ከመውሰድዎ በፊት ገንዘቡን በአግባቡ እንዲጠቀሙበት ያገኙት ስልጠና አለ?

አዎ ☐ 1

የለም ☐ 0

36. ለጥያቄ ቁጥር 35 መልሰዎ አዎ ከሆነ፤ ምን አይነት ስልጠና ነበር ያገኙት ወይም የተሰጠዎት ?

1. ሥለ ንግድ /ወይምስራ
2. ስለ ገበያ
3. ስለ ቁጠባ ወይም ስለተጨማሪ ዕጣ ግዥ
4. ስለሒሳብ መዝገብ አያያዝ

5. ሌላ ከሆነ (ይግለጹልን) _____

37. የተሰጠዎት ስልጠናና ገቢዎችን የማሳደግ እና ዕዳዎችን ለመክፈል እረድቶኛል ብለው ያስባሉ?

አዎ ☐ 1

አልረዳኝም ☐ 0

ክፍል አምስት፡ ገቢ እና ሐብት

38. በብድር ካገኙት ገንዘብ በሰሩት ስራ ምን ያህል ዓመታዊ ገቢ ያገኛሉ?

1. ከ1000 ብር በታች

2. ከ1001 ብር እስከ 2000 ብር

3. ከ2001 ብር እስከ 3000 ብር

4. ከ3001 ብር እስከ 4000 ብር

5. ከ4001 ብር እስከ 5000 ብር

6. ከ5000 ብር በላይ ከሆነ ቢገልጹልን? _____

39. በአሁኑ ሰዓት ሌላ የገቢ ምንጭ አለዎት ?

አዎ ☐ 1

የለኝም ☐ 0

40. ጥያቄ ቁጥር 39 መልሰዎ አዎ ከሆነ፤ የገቢ ምንጮችዎንና ዓመታዊ ገቢዎን ቢጠቅሱልን ?

ተ.ቁ	የገቢ ምንጭ	ዓመታዊ ገቢ

41. በአሁኑ ወቅት ያለዎት ንብረት ምን ያህል ይገመታል ?

1. ከ1,000 ብር በታች

2. ከ1,001 ብር እስከ 3,000 ብር

3. ከ3,001 ብር እስከ 5,000 ብር

4. ከ5,001 ብር እስከ 7,000 ብር

5. ከ7,001 እስከ 10,000 ብር

6. ከ10,000 ብር በላይ _____

ክፍል ስድስት፡ ሥራ እና ቅጥር

42. በአሁኑ ሰዓት በዕርሰዎ የስራ ዘርፍ ከእርሰዎ ውጭ ምን ያህል ሰራተኞች ይገኛሉ ? _____ ያህል (በቁጥር)

1. የቤተሰብ አባላቶች
2. የወተት ምርት ግብይት ሞያ ተማሪ
3. ቅጥር ሰራተኞች
4. ሌላ (ይግለጹልን) _____

44. እርሰዎና ቤተሰብዎ የጤና አገልግሎት ያገኛሉ?

$$h^0 \square 1 \qquad h^1 \square 0$$

1. ራሴ
2. ነፃ ህክምና
3. የሌላ ቤተሰብ አባል
4. ዘመዶ
5. እኔ እና ሌላ የቤተሰብ አባል
6. ሌላ (ይግለጹልን) _____

የኢትዮጵያ ብር ለ 12 ወራት
የኢትዮጵያ ብር ለ 5 አመታት

$$h^0 \square 1 \qquad h^{\text{የሳይርብኝም}} \square 0$$

$k^{\rho} = 1$ አልሄድም/ዱም = 0

$$h^0 \square 1 \qquad \qquad \qquad \text{የሉብኝም} \square 0$$
$$h^0 = 1 \qquad h^1 = 0$$

1. ባለፉት 12 ወራት _____ የኢትዮጵያ ብር

2. ባለፉት 5 ዓመታት _____ የኢትዮጵያ ብር

52. የዕርሰዎቤተሰብ አማካኝ አመታዊ የፍጆታ ወጭዎች በመጨመራቸው በብድር አመላለስ ዎላይ ተጽእኖ ያሳድርበዎታል?

አዎ ☐ 1

አያሳድርብኝም ☐ 0

ክፍል ስምንት፡ የገበያ ሁኔታ እና የብድር ጥቅም

53. በብድር ከመሰረታዊ የወተት ኅ/ስራ ማህበሩ ባገኙት ገንዘብ የሰሯቸውን የስራ ውጤቶች ወይም የሚሰጡትን አገልግሎት

ቢዘረዝሩልን ?

1. _____

2. _____

3. _____

54. የሥራ ውጤታዎ ወይም የሚሰጡት አገልግሎት ምን ያህል ተፈሊጊነው / ናቸው?

1. ከፍተኛ

2. መካከለኛ

3. ዝቅተኛ

55. ባለፉት አምስት (5) አመታት ከተሠማሩበት የሥራ ዘርፍ ያገኙት የትርፍ ዕርከን ወይም ደረጃ እንዴት ነበር?

1. ጨምሯል

2. ቀንሷል

3. ተመሳሳይነው

56. ለጥያቄ ቁጥር 55 መልሰዎ ጨምሯል ከሆነ፤ ለመጨመሩ ምክንያት ምንድን ነው ብለው ያስባሉ?

1. በቂ የገንዘብ ምንጭ መኖሩ

2. ገበያ ስለተገኘ

3. ጥራት ያለው ምርትን በማቅረብ

4. ተስማሚ ዋጋ በማቅረብ

5. ሌላ (ይግለጹልን) _____

ክፍል ዘጠኝ፡ ሌሎች መረጃዎች

57. በመሰረታዊ የወተት ኅ/ስራ ማህበሩ አባል ከመሆንዎ (ከመታቀፉዎ) በፊት በገንዘብ ተቋማት የቁጠባ ገንዘብ ነበረዎ?

አዎ ☐ 1

የለኝም ☐ 0

58. ለጥያቄ ቁጥር 57 መልሰዎ አዎ ከሆነ፤ በአማካኝ በወር ምን ያህል ገንዘብ በቁጠባ መልክ ያስቀምጡ ነበር?

_____ የኢትዮጵያ ብር

59. በብድር በወሰደት ገንዘብ ለሚሰሩት ስራ የሂሳብ መዝገብ አያያዝ ይጠቀሙ ነበር?

አዎ ☐ 1

አልጠቀምም ☐ 0

60. ለጥያቄ ቁጥር 59 መልሰዎ አዎ ከሆነ ፤ ለምን ዓላማ ነበር የሂሳብ መዝገብ አያያዝን የሚጠቀሙት?

1. ትርፍና ኪሳራዬን ለመገምገም ወይም ለማመዛዘን

2. ለብድር አመላለስ እንዲረዳኝ

3. ሌላ (ይግለጹልን) _____

61. ለጥያቄ ቁጥር 59 መልሰዎ አልጠቀምም ከሆነ፤ የሂሳብ መዝገብ አያያዙን በምን ምክንያት ነው የማይጠቀሙት?

1. በቂ ዕውቀት ስለሌለኝ

2. የማደረጋቸው የንግድ ውሎች ወይም ሰራዎች ለመመዝገብ ትንሽ ስለሆኑ ወይም አመች ስላልሆኑ

3. ሌላ (ይግለጹልን) _____

62. ሥለ ወተት ልማትና ግብይት ያለዎን አጠቃላይ ሀሳብ ምን እንደሆነ አብራርተው ቢገልጹልን?

በጥናቱ በመሳተፈዎ በድጋሜ እናመሰግናለን!

Appendix 3: *Selected Basic Dairy cooperatives under review*

Name of sample cooperatives – in Bahir dar city	<i>number of members</i>		
	<i>Male</i>	<i>Female</i>	<i>TOTAL</i>
Adisalem Basic Dairy cooperative (in Bahir dar)	19	22	41
Bahirdar Basic Dairy cooperative	19	18	37
Total	38	40	78